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ANNUAL REPORT

OF THE

BUREAU OF HEALTH

FOR THE

PHILIPPINE ISLANDS

VICTOR G. HEISER,
DIRECTOR OF HEALTH

JULY 1, 1907, TO JUNE 30, 1908

MANILA
BUREAU OF PRINTING
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ANNUAL REPORT OF THE BUREAU OF HEALTH.

BUREAU OF HEALTH,
Manila, July 20, 1908.

SIR: Pursuant to instructions from the honorable the Secretary of the Interior for the Philippine Islands, I have the honor to submit herewith a report upon the operations of the Bureau of Health from July 1, 1907, to June 30, 1908, the same being an official statement in general terms of the health and medical work carried on by the Bureau for the period named, and the ninth annual report of this division of the Government of the Philippine Islands.

PRELIMINARY CONSIDERATIONS.

The ground gained in former years in the advancement of public health work has been held, and in certain directions, more strongly fortified. Yet from the standpoint of permanent and definite advancement in public sanitation, this year has not been so satisfactory as the preceding year. Many projected plans had to be abandoned for lack of time.

The resources of the Bureau, all of which ought to have been available for substantial, concrete sanitary work, have been largely diverted along temporary lines in combating and preventing cholera, smallpox, diphtheria, and measles. Success in this feature of the work, however gratifying the immediate effects may be, is not of a permanent character, and can not be classed as real sanitary progress.

In view of the fact that within the last few years there has been such a widespread interest awakened in tropical sanitation, it would be appropriate and interesting on this occasion to review at some length the situation in the Philippine Islands; but owing to the pressure of a multitude of administrative duties, only a brief outline of the work can be submitted.

ACKNOWLEDGMENT.

The report for last year was read and commented on so generally by the medical and lay press that, as a matter of expressing his appreciation, the Director of Health would be gratified to have the opportunity to discuss more fully the character of the sanitary work and health conditions of the Philippine Islands, and to correct many erroneous impressions that have heretofore prevailed. So many letters have been received that it is practically impossible to answer them all individually;

therefore, advantage is taken of the opportunity to incorporate into this report a few items of information which have been requested, and, at the same time, to make a general acknowledgment to the sanitarians, the physicians, and the press for their helpful and friendly attitude toward the progress of sanitary science in the Philippine Islands.

BRIEF RÉSUMÉ OF SANITARY WORK SINCE AMERICAN OCCUPATION.

Ten years ago the Philippines figured but to a slight extent on the sanitary map of the world, hence it is not surprising that little should be known of them in this respect.

When the Spanish war was over, and the Americans, who had come across the ocean in obedience to destiny's call, had oriented themselves with regard to their surroundings, they found that they were occupying an archipelago composed of some three thousand islands, extending from 21° 25′ to 4° 45′ north latitude, and from 116° to 127° east longitude, with a combined area greater than the aggregate area of the States of Pennsylvania, New York, New Jersey, and Maryland, and possessing a coast line equal to that of the United States. In this vast tropical region there are two prevailing winds during the year, one known as the northeast monsoon, which blows almost continuously from November to April, and the other known as the southwest monsoon, which blows from April to November, during which period destructive cyclones sometimes occur. These winds and other meteorological conditions produce a climate varying greatly in different portions of the Islands. The rainy season on some parts of the eastern coast occurs during one monsoon period, while along the western coast it occurs during the other. In general, it may be said that the dry season, in which there is an average rainfall in Manila of 375.5 millimeters, corresponds to the northeast monsoon, and the rainy season, during which there is an average rainfall of 1,137.1 millimeters, corresponds to the southwest monsoon. The temperature varies from an average of about 80° F. in the lowlands, to about 75° F. in the mountains of Benguet, where the summer capital of the Philippine Islands is located. The lowest temperature of the Islands is about 65° F. and the highest rarely goes above 95° F. In the mountain region it ranges from 35° to 80° F. Low temperature, that great aid to sanitation in the temperate zone, is not a factor of influence, the conditions with reference to warmth and moisture being such that mosquitoes and other insects, together with bacteria and parasites, thrive throughout the entire year.

With the exception of the Cagayan and Dagupan Valleys in the Island of Luzon, and the Cotabato Valley in the Island of Mindanao, the interior regions of the Islands are very sparsely inhabited, most of the towns being found along the coast line. The Cagayan River in Luzon is navigable for a distance of 200 miles. The soil in these valleys is

very fertile, the Cagayan Valley being often compared by travelers to the valley of the Nile, as the river overflows its banks and fertilizes the country. This is mainly interesting from a sanitary standpoint because of the fact that on the subsidence of the water from the inundated districts, stagnant pools, in which mosquitoes breed in abundance, are left.

It is estimated that at the time of American occupation, the population of the Islands was about six and one-half millions, and that the death rate was so high that the population had been practically at a standstill for many years. There are no records in existence in the Philippine Islands from which even a rough estimate could be formed as to what the actual death rate was, but judging from the mortality at present, with the positive knowledge that a large reduction has been brought about, it would appear that it certainly must have been over 50 per thousand. At the time of American occupation, at least 40,000 persons per annum died of smallpox.

So far as could be ascertained by a careful sanitary survey, not one artesian well existed. The examination of water from practically every section of the Philippine Islands shows that all wells, rivers, springs and other surface sources contain amœbæ, except at such health resorts as Sibul Springs and others of this class, where repeated examinations have proved that the water is free from these organisms.

There was no sewer system in Manila, a city of over 200,000 inhabitants, and the night soil and household waste matter were disposed of in a most crude manner.

The water supply for the city was derived from a river the watershed of which was inhabited by about 10,000 people, who considered it their inalienable right to bathe both themselves and their animals in the river and otherwise pollute the same.

In the city some 31 miles of esteros, or canals, existed which were nothing more than open, filthy water courses into which nearly all waste material found its way.

There was practically no provision for the care of the insane, a common custom being to tie them to a stake with a dog chain.

With the exception of about 200 lepers that were taken care of at the San Lazaro Hospital, Manila, and the Palestine Leper Colony, Cebu, for charity's sake only, some 4,000 or more roamed about the Islands at will.

The question of the disposal of the dead had also been neglected. A single grave was often utilized as many as four or five times, the excavated remains being thrown carelessly about or heaped into an "osario" or bone pile in order to make room for the more recent corpse.

The number of cases and deaths from beriberi in penal institutions was very large. Malaria claimed its victims by the thousands. On account of there being no adequate quarantine system, diseases like

plague, cholera, leprosy, and smallpox were frequently introduced from the great infected centers of the Orient. Amœbic dysentery claimed its victims by the hundreds without any hope of relief. Devastating cattle diseases were literally sapping the wealth of the country. Formidable epidemic diseases were prevalent; cholera sometimes claimed as many as a thousand victims per day in the city of Manila, and at times, according to reports, depopulated entire villages in the provinces. Bubonic plague must have been present, as it was found in Manila a short time after American occupation.

Pleasing as it might be to be able to state that all of the foregoing conditions have now been entirely eliminated, yet in all candor it must be said that the work is so enormous, the funds so inadequate, and trained helpers so few that much yet remains to be done. Still, when it is remembered that the Philippine Islands are eleven times larger than all the remaining tropical possessions of the United States, and that it requires over six months to have even small requisitions for supplies from the United States filled, and that the financial resources of the country are meager, it will not be considered remarkable that the conditions have not yet become perfect.

Soon after occupation, a general campaign of cleaning and scrubbing so characteristic of the American sanitarian, was inaugurated throughout the Islands. Sanitary rules and regulations were crystallized into compact shape and enacted into laws. Some three hundred boards of health were organized, so that the needs of the various municipalities could be systematically studied and results secured. Garbage collection, sewage disposal, street sweeping, the isolation of dangerous communicable diseases, the systematic vaccination of the people against smallpox, and many other sanitary measures received attention, and improvement soon became everywhere apparent.

The vaccination of over 6,000,000 people in a more highly educated country with the best of transportation facilities would be no small matter, but it would indeed be an insignificant task compared with such a project in the Philippine Islands where reverse conditions obtain. The undertaking here was begun by permitting each municipality to vaccinate upon its own account, but after several years' faithful trial, this scheme was abandoned, and a plan of systematic vaccination by groups of about twenty-five vaccinators directly under the charge of a competent physician was started in various parts of the Islands. The method found to work best was to commence on the border of a province and systematically work across it until every person was vaccinated. In the provinces near Manila, which represent a population of about a million, there had been 6,000 or more deaths from smallpox annually. Last calendar year after such vaccination was completed, not one death occurred from smallpox.

To-day dozens and dozens of artesian wells exist and in many localities

the death rate has dropped as much as 20 per thousand through the general use of artesian water.

The new gravity system which brings water from an uninhabited watershed will be completed within a few weeks. This will practically insure Manila against a serious cholera epidemic by relieving those conditions which have heretofore necessitated a patrol of the shed by United States troops to prevent pollution of the water supply.

A modern ice plant produces daily 100,000 pounds of ice and 5,000 gallons of distilled water, which is sold to the public by the Government at a nominal price.

The new sewer system for Manila, which is being constructed at a cost of about ₱4,000,000, will be ready for use next year. In the meantime, however, the sewage is being disposed of by a system of septic tanks which have proved satisfactory, and have deservedly earned for Manila the name of a city without odors. There is no longer any pollution of the canals or the Pasig River. The 31 miles of esteros or canals have been dredged and cleaned of the filth which has accumulated for several centuries. The moat which surrounded the Walled City has been filled up, and is now being parked. Thousands upon thousands of malodorous wooden structures erected over tight vaults have been replaced by the modern enameled closets, and hundreds of acres of lowlands have been raised above tide level and drained.

Hygiene is taught in the 3,500 public schools of the Islands, and the simple rules of health are repeated like a catechism in thousands of Filipino homes.

The hospital of 160 beds established for the treatment of civil employees is soon to be succeeded by a general hospital, now in process of erection, for which the sum of ₱780,000 was appropriated for the buildings alone, the site having been purchased some years ago. This institution will not only be large enough to meet the needs of the government employees, but will be used as a general hospital as well.

A modern hospital building for the insane is already completed, and facilities are available for the care of 500 of these unfortunates.

In establishing the leper colony upon the Island of Culion, one of the most extensive segregations recorded in history is being undertaken. Of the 4,000 lepers estimated to be in the Philippines, only about 1,000 remain to be collected. It may be remarked in this connection that the policy of the segregation of lepers bids fair to be fully vindicated. Experience during past years was that in those provinces from which the lepers were removed, more than three hundred new cases of the disease appeared annually; at the present time, not more than fifty new cases occur. This result has fully justified the policy of segregation which was commenced two years ago, and it can be confidently asserted that the increase in the total number of lepers has been permanently arrested,

and that from now on a steady decline will take place. The fact of the control of this most loathesome disease is irrefutable evidence of the benevolent character of the work being done in these Islands under the auspices of the United States Government, and although it is only a very small part of the work of the Bureau of Health, yet it is worth many times over the entire cost of the maintenance of the whole bureau.

The burial of the dead is now properly regulated in considerably over half of the provinces, and partially regulated in the others.

The free distribution of quinine has greatly reduced the incidence of malaria. Some drainage and other methods of mosquito extermination have been undertaken, but the lack of funds and trained assistance has prevented much headway in this direction.

Great advances have been made in prison sanitation. Diseases like beriberi have been almost eliminated, and the death rate brought down to normal.

The value of the work done here in the past is perhaps best shown by the fact that while many cities in Japan and other Oriental countries were having over 500 cases of smallpox per week, the city of Manila had only a few cases, and that while Hongkong and other near-by ports are struggling with their annual outbreaks of plague, the Philippine Islands are entirely free from this disease.

The methods of combating that great devastating disease cholera have been so improved that, even with the funds and help available in the Philippine Islands, the number of cases and deaths in comparison with former epidemics is greatly reduced. This fact has done much to allay public apprehension; consequently, panics of fear have practically disappeared, and a community in which cholera makes its appearance moves along in the even tenor of its way as if nothing unusual had happened.

Sanitary measures in the Philippines are as productive of satisfactory results as they have been in other countries and communities in which they have been faithfully applied; the death rate has, no doubt, been reduced by ten or more per thousand, which, in itself, means the saving of many thousands of lives. The morbidity has also been lessened, but even after all this has been brought about, the feeling still remains that more should be accomplished.

However desirable the necessary cleaning up and ordinary sanitary measures may be to a community, still experience in the Philippine Islands teaches that such work alone is not nearly so effective in improving the public health as has heretofore been believed to have been the case. Experience in eradicating yellow fever from Cuba by the elimination of the mosquito, and not by the removal of filth, the destruction of the rat for the eradication of plague, the killing of *Anopheles* for the suppression of malaria, all go to demonstrate that there are other sanitary measures possessing equal, if not greater, influence on the improvement of public health conditions than the mere cleaning up of filthy places.

VISIT OF THE SECRETARY OF WAR.

The Hon. William H. Taft, at that time Secretary of War, visited the Philippine Islands during the months of October and November, 1907, and although the official and social demands upon his time were most exacting, he was ever ready by word or action to show his profound interest in every agency or effort, great or humble, for the uplifting of the Filipino people, to whom he is indeed a father and friend. The cause of medical education, public sanitation and hygiene received marked attention and recognition from him.

He visited the Philippine Medical School, the Nurses' Training Department of the Philippine Normal School, the headquarters of the Society for the Protection of Infants, the reservoir and dam of the new water supply for the city of Manila, the Baguio Sanitarium Hospital, and many other places affording a basis for judgment as to the extent of progress during his absence. He inquired into every feature of the work, and expressed his approval of all that had been done. So greatly pleased was he with Baguio that upon his return to Washington, he recommended to the Congress that the present Army post at that point be made a brigade post, and that the tour of Philippine service be increased by the addition of another year, so that by rotation, each organization could be given at least six months' duty at Baguio, thus affording the troops the benefit of a temperate climate.

MANILA AS A MEDICAL CENTER.

In view of the excellent facilities which the proposed new hospital, together with Bilibid, San Lazaro, and the other hospitals already existing in the city of Manila, will offer for the study of tropical diseases, and in view of the large staff of the Bureau of Science engaged in research work, Manila is destined to become the medical center of the Orient.

There has already been organized here an association composed of the leading medical men of the east, for the purpose of studying tropical diseases.

MEDICAL SCHOOLS.

There are two medical schools in the Philippine Islands, the medical department of the Santo Tomás University, established in 1872, and the Philippine Medical School, established in 1907. Both institutions have been signally successful during the past year. Instruction in the medical department of the Santo Tomás University is given in Spanish, while that in the Philippine Medical School, a Government institution, is conducted in English. The faculty of the latter institution, while conforming with the requirements of the Association of American Medical Colleges, has, in the matter of its curriculum and length of course, conformed to the standards of Great Britain. The local hospitals furnish

adequate clinical facilities, and the excellent laboratory equipment of the school is supplemented by that of the Bureau of Science.

Vacation courses in practical sanitation were conducted at the sanitary stations of the Bureau of Health.

The medical department of the Santo Tomás University has made some important changes in its faculty and in its course of study with a view of meeting the stricter requirements of the Government, which are to be enforced hereafter, with reference to the relation of the students to the medical examining board. In the Philippine Medical School the professors of the elementary branches give their entire time to the work, thus becoming personally acquainted with every student, and with his needs and capabilities. The policy of eliminating unprepared students has brought the institution up to a very high grade of efficiency. No tuition is charged, and no favors are bestowed. It is the purpose of the Government and of the faculty to maintain in the Philippine Islands a high-grade medical school for the education of the future physicians of the country.

The Government has established a free dispensary and 100-bed hospital in connection with and under the immediate control of this institution.

NEW HOSPITALS.

The requirements of the medical and sanitary work in the Philippine Islands received substantial recognition in last year's appropriation bill, the sum of ₱780,000 being appropriated for the construction of a general hospital in the city of Manila, in addition to the amount previously appropriated for the site; both appropriations making about ₱1,000,000 available for hospital purposes. It is proposed to merge the present Civil Hospital into the new institution, and to provide wards for the indigent and for such pay patients as may apply for treatment. The building will be of reënforced concrete, and will be located upon the Exposition Grounds next to the buildings of the Bureau of Science, so that the best laboratory facilities will be readily accessible. Considerable time was given to the study and comparison of the hospital plans and systems of other tropical countries, as well as those of Europe and America, with reference to the respective merits from a comparative standpoint, and especially with regard to their adaptability and suitability to the conditions in the Philippine Islands. The final decision was that the hospital should consist of an administrative building, and five two-story separate pavilions, which will have a capacity of 30 patients upon each floor, or 60 patients per pavilion. The present arrangements are for 300 beds, but the plans are so drawn as to admit of the erection of additional pavilions as soon as appropriations become available, without involving a change in the original scheme.

The construction of this hospital has been delayed on account of the failure to have the plans completed and bids solicited. The corner stone

of the foundation was laid March 2, 1908, by the Secretary of the Interior, the Hon. Dean C. Worcester, in the presence of His Excellency the Governor-General, members of the Commission, the Philippine Assembly, the foreign delegates to the Philippine Islands Medical Association, and many other distinguished persons. Addresses were made by the Governor-General and the Secretary of the Interior; also by Sir Allan Perry, of Ceylon, and Dr. Fernando Calderon, of Manila.

This institution, in addition to being a general hospital for the entire Philippine Islands, will also serve as a training school for nurses and a clinical hospital for the Philippine Medical School.

The new Civil Hospital at Baguio was almost ready for occupancy at the close of the year. The medical work at Baguio has increased so rapidly that the need of additional facilities is felt most acutely. The new hospital will have accommodations for at least 30 ward patients and 14 private-room patients.

The University Hospital on Calle Magdalena in the district of Trozo, Manila, conducted under the auspices of the Protestant Episcopal Church of America, has been completed and equipped, and has accommodations for 25 charity patients and 10 pay, or private-room, patients. This hospital is situated in the center of the poor section of Manila, and is constantly filled to its capacity. Over 2,500 out-patients are treated at the dispensary each month. The Bureau of Health furnishes the greater portion of the medicines used for the indigent poor.

The Methodist Episcopal Church, through its mission service, has opened a fifty-bed hospital for women and children at No. 35 Calle Quesada, Tondo, to be known as the Mary J. Johnston Memorial Hospital. The building was donated by Mr. D. S. B. Johnston, of St. Paul, Minnesota, but the land, furnishings, and equipment were purchased by the Methodist Foreign Mission Society, which also supports the institution. The hospital is under the medical supervision of Dr. Rebecca Parrish, who has charge also of the free dispensary connected with the institution.

The dispensary and hospital were opened temporarily in the Deaconess' Training School building December 10, 1906. From that date to the close of the present fiscal year, there were treated 4,100 dispensary cases; 127 hospital cases, and 441 out-patients who were unable to visit the hospital. In addition, 953 surgical dressings were applied, and 15,305 prescriptions filled.

The new building is located on the Tondo beach, a district of the greatest destitution and squalor in the city of Manila, and will confine its work to the poor people almost exclusively, although a few pay beds have been established for the benefit of those among the better classes who would not seek admission as charity patients. The Bureau of Health supplies a portion of the medicines used in the charitable work of this institution.

A training school for nurses has been established and two American trained nurses employed as instructresses. Four Filipina nurses who have been with the institution since its opening act as assistants.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

The fifth annual meeting of the Philippine Islands Medical Association was held in the Philippine Medical School building in the city of Manila, February 26, 27, 28, and 29, 1908, under the direction of Dr. William E. Musgrave, the president. This meeting was the most successful in the history of the Association, and was honored by the presence of a number of foreign delegates, among whom were:

Dr. R. D. Keith, physiologist and assistant pathologist, Straits and Federated Malay States Medical School; delegate from the Straits Settlements.

Dr. Francis Clark, medical officer of health, and delegate from His Britannic Majesty's Colony of Hongkong.

Prof. Taichi Kitajima, M. D., of the Infectious Diseases Institute, delegate from His Imperial Japanese Majesty's Government.

Dr. Cheng Hao, delegate from his Imperial Chinese Majesty's Government.

Sir Allen Perry, the honorable principal civil medical officer of Ceylon, and delegate from Ceylon.

Prof. T. Ishigami, M. D., of the Ishigami Institute for Infectious Diseases, Osaka, Japan.

Dr. Hays, delegate from Siam.

Lieutenant Ryley, R. A. M. C., Hongkong.

Dr. Vassal, of the Institute Pasteur, Nhatrang, Annam, delegate from Indo-China.

Dr. H. Fraser, of the Institute for Medical Research, Kuala Lumpur, delegate from the Federated Malay States.

These gentlemen all delivered addresses on subjects pertaining to medical science.

The opportunity offered for conference with so many medical men engaged in sanitary work in other parts of the Orient was productive of much good. The discussions were mutually beneficial, and will, no doubt, have a direct influence in reducing the quarantine restrictions between the several countries. The study of the great tropical problems connected with dysentery, hookworms, beriberi, and public water supplies, was, in many respects, enhanced. The advantageous results of these meetings were so apparent that it was decided to organize a Far Eastern Medical Association, in order that the field of this work might be still further broadened.

It is greatly to the credit and honor of the medical profession of the Philippine Islands that an association of such broad scope and wide influence should have had its origin in Manila.

SCIENTIFIC RESEARCH AND SANITATION.

While the commonplace demands on the force and time of the employees of the Bureau of Health are quite sufficient to keep every one busy, several scientific investigations have been made in public-health matters.

The diseases of uncinariasis, amœbic dysentery, cholera, and trachoma have been the subject of special attention, and the many treatments for leprosy which are constantly recommended have nearly all been given a faithful trial. So far, the X-ray treatment has given the most hope.

The Bureau at this time is arranging and classifying the statistical data of 1,500 cases of leprosy in all stages of the disease, and, when finished, it will be the most complete clinical record of the malady known to this office. The patients are being thoroughly examined in every part of their bodies for lesions and every fact carefully noted. It is hoped that the completeness of this record may be sufficient to serve as a basis for valuable scientific deductions.

The treatment of amœbic dysentery by a new method in which simaruba and sodium sulphate are the principal remedies, has given far more satisfactory results than any other treatment that has heretofore come to the notice of this Bureau.

Sleeping sickness, yaws, and gangosa are still under investigation, and elephantoid diseases are to be taken up shortly.

Investigation into the prevalence of albinism in the Philippines is now in progress.

Septic vaults, traps, and other fixtures necessary for the disposal of waste, have received careful study, and a number of changes have been made. The use of the old unsatisfactory bell trap has been discontinued, and a new design substituted.

The field of public sanitation is so large and interesting that scientific research work is sure to become more and more the line of prescribed duty for the health officer or public sanitarian. The duty of chasing pigs out of back alleys, cleaning water-closets, and sniffing the air for bad smells may be left under proper advisory supervision to nonprofessional employees; the sanitarian has other and greater duties.

The great problem of the future in the Philippines is to fortify the masses so as to withstand and conquer the germs of disease. These organisms are so numerous that to seek to preserve the public health by a warfare against them alone would be about as logical as to destroy oxygen in order to prevent conflagrations instead of erecting fireproof buildings.

Mention has been made elsewhere in this report of the prevalence of uncinariasis among the people as revealed by the investigation carried out among Bilibid prisoners, and of the special crusade to be made against this disease.

This office is convinced that the proverbial reputation for indolence gained by the natives of tropical countries is due, in a large measure, to the prevalence of the hookworm disease, and that the excessive infant mortality may be in part traced indirectly to the same cause.

Nature has provided all of her creatures with the inate power and means of preservation against their foes, but when all their vital resources are taxed by constant drain on the nutritive supplies, like an

impoverished and starving army, they must succumb before their enemies. The system can not withstand even a slight attack that, under more favorable conditions, would be of little consequence, nor can remedies against disease be expected to be effectual under such unfavorable circumstances.

The central idea is that the masses must be prepared to conduct their own defense through their own vital force, and that the most far-reaching and influential cause undermining the health of the Filipino people and making them easy victims to cholera, tuberculosis, and other less formidable diseases, is the general prevalence of intestinal parasites, especially the hookworm, and that it is against this condition that special efforts are to be directed, and from which the greatest measure of success is to be expected.

ARMY MEDICAL BOARD FOR THE STUDY OF TROPICAL DISEASES.

The former Army Medical Board for the Study of Tropical Diseases, composed of Capt. Percy M. Ashburn, Medical Corps, and Lieut. Charles F. Craig, Medical Corps, whose term of service in the Philippines had expired, was replaced by another composed of Capt. James M. Phelan, Medical Corps, and Lieut. Henry J. Nichols, Medical Corps.

Captain Ashburn and Lieutenant Craig conducted many important investigations, and in addition to the work mentioned in last year's report, other results which they obtained were published by the Surgeon-General of the Army and by the medical press. The new board is now actively engaged in their work and has already reported upon the condition of the liver in schistosomiasis, and upon oidiomycosis.

The vast amount of clinical material under the control of the Bureau of Health has been placed at the disposal of the board, and upon several occasions its members have accompanied officers of this Bureau to the provinces while engaged in the collection of lepers, as among many of the cases that are presented as alleged lepers there are found some of the rarer tropical diseases which afford most interesting studies for research work.

In addition to the work done by the board, Capt. Eugene Whitmore is carrying on extensive investigations in opsonic therapy, particularly with chronic forms of gonorrhœa, with which he has had considerable success.

THE IMPORTANCE OF THE COÖPERATION OF THE MEDICAL PROFESSION IN PUBLIC-HEALTH WORK.

Every physician desires to advance the cause of the public health in his community and especially among his own patients. The organized medical profession would regard with disdain any practitioner of medicine who would oppose measures of public hygiene or treat with indifference any effort in the interest of the public health. A large number of diseases may be prevented by sanitary science, and it should be said that

the profession as a whole, though it be to the personal disadvantage of its individual members, nobly supports the health officer in his work. With the broadening field of opportunities there arises an urgent demand for closer coöperation. The sins of the average medical man against the interests of public health are those of omission rather than commission. It is easy to forget and sometimes easier to follow the lines of least resistance. Thus a physician will often permit erroneous theories to pass uncontradicted rather than go to the trouble of explaining away the error and replacing it by the truth. This charge is abundantly substantiated by the daily complaints from a misinformed public regarding "sewer gas" and "neighborly" death-dealing odors, which are supposed to cause everything from mumps to bubonic plague and cholera. These false ideas are exceedingly formidable obstacles in the progress of sanitation. It is difficult for the health officer to convince those holding such ideas that there is more safety in personal hygiene than there is in waging eternal warfare against one's neighbor. Had the family physician taken the trouble to explain, these false theories would not have remained to make the health officer's life a burden, and to be actually productive of harm through ignorance of the true cause of disease, thus rendering the holders of such opinions practically helpless in applying the proper measures for the protection of themselves and those whom they seek to save.

Physicians can not overestimate the influence that a silent, acquiescent, attitude has on matters of this kind, while their positive stand for the truth, reënforced by tact and patience, really the only reliable source of correct information to which a large part of the public may find access, is a force that can not be measured.

Bacteriological knowledge has made rapid progress within the last few years, but the popular belief in "bad blood," thick or thin, as may be desired, is through the influence of quack advertisements and the least-resistance attitude of the medical practitioner, almost as firmly intrenched in the minds of these people as if there were no science of bacteriology.

Proper measures of personal hygiene in which the family doctor is and always will be the chief instructor, will go a long way in keeping off many diseases which are not usually classed as preventable. These measures are so simple that it lies within the power of everyone who has been properly instructed to lessen his chances of contracting these borderline maladies, and the physician, by virtue of his relation to the public, has an immense opportunity, not only actively to coöperate with the health officer, but to render an invaluable service to his patients and to the cause of sanitation.

Physicians are in a position to render another important service to the health authorities. The public often misunderstands the purpose of sanitary ordinances and public health measures, and directs its objections, antipathies, and anathemas against the health officer, whom it

holds responsible. An explanation, or even a kind word from the family physician, in such cases, works wonders for the cause, and enhances, at the same time, the estimation in which the doctor is held by the community. The people should know that public-health work is not limited to garbage collection, removal of dead animals, cutting weeds and grass on vacant lots, keeping goats out of back alleys, and deodorizing foul smells.

Much greater benefit would accrue to the public if the health officer could devote more time to vaccinating, to spreading the gospel of pure water such as is obtained from artesian wells, to instructing the people how to cure and prevent tuberculosis, how to combat the hookworm, how to avoid amœbic dysentery, how to reduce the infant mortality, how to improve the milk supply, how to detect and prevent adulterated food from being sold, and how to meet situations which have a vital influence on the individual, the race, and the nation.

One of the principal duties of a health organization is the collection, arrangement, and study of statistical data pertaining to the social and hygienic conditions affecting the public.

Every well-regulated city has certain health ordinances requiring prompt reporting of births and deaths, and the suspicion or presence of dangerous communicable diseases. Such ordinances are violated perhaps more frequently than any others, and by the very persons who should be the most interested in their enforcement—the physicians.

Vital statistics can not be more accurate or more valuable than the individual returns from which they are compiled. They, like mechanical structures, can not be stronger than their weakest points. Hence it will be seen that the utmost accuracy is essential.

In the Philippines, one of the principal troubles has been the collection of statistics with regard to births. This may be partly explained by the fact that a large number of children are born without medical attendance, but with proper credit given in this direction, it is still astonishing to contemplate the insignificant value that is attached to a birth certificate by a great many physicians. Birth records, slightly regarded as they are, are among the most valuable documents in the files of vital statistics. They often figure in suits, legacies, and documentary proofs. They are, in various ways, also a source of important statistical deductions which could not be arrived at upon any other basis.

It is a strange thing, too, that doctors will promptly report smallpox, plague, or diphtheria, and never think of typhoid fever and tuberculosis. If physicians could be made to realize the importance which health officers attach to such reports, they would undoubtedly regard the matter in a different light and lapses of memory in that direction would be less frequent.

The value of the health service in a community is largely determined

by the attitude of the practising physicians toward such service. Efficiency and value are not always synonymous terms. The health officer's work may be all in vain unless he receives proper support; hence arises the urgent, important necessity for a closer, more professional and a more personal coöperation between the medical practitioners and those who have been entrusted with the duties and responsibilities of officially protecting the public health.

THE PURPOSE OF SANITARY STATISTICS.

The committee of the American Health Association on demography and vital statistics in their sanitary relations, in a report made in 1902, states that deaths are registered primarily for legal purposes; that is, for the protection of certain rights and privileges of individuals and of families. This is the first and most important use of records of deaths, and the sort of utility which appeals most strongly to the public A subsidiary, though highly valuable, use of registration, is the employment of the data in compilation of sanitary statistics, by which the local, State, and Federal health services may direct their measures, improve their methods, and gauge their results.

This office concurs with Woodward, of Washington, who said in an article in the Michigan Journal of Vital Statistics for March, 1908, that the use of registration as a source of vital statistics is paramount to its use for legal purposes, and that if the public health should be the chief concern of the statesman, as has been wisely said, and if vital statistics serve to increase the efficiency of measures tending to preserve and to promote such health, the importance of registration is greater from a statistical standpoint than from the standpoint of the mere legal interests of an isolated individual or the occasional legal interest of the community as a whole.

The committee probably had in mind, when it wrote its report, the actual extent and manner in which vital statistic are now used as indexes to the state of the public health and as guides to sanitary effort, rather than the extent to which they are susceptible of such use and the extent to which they should be so used.

Dr. Woodward believes that the birth rate is of interest chiefly from a sociological standpoint, but that death rates, general and special, and morbidity rates, must be relied upon to show where sanitary efforts are needed, and to demonstrate the results of sanitary work already under way; therefore it is with these reports that the practical side of sanitation is chiefly concerned. Nowhere do the sanitary possibilities in vital statistics, and the difficulties in the way of their realization, become more apparent than in the study of the general death rate. The popularly accepted index to the healthfulness of the community depends, according to the same authority, upon four primary factors; first, an arbitrarily fixed unit of space; second, an arbitrarily fixed unit of time;

third, the number of people, and fourth, the number of deaths. The secondary factors are, however, unfortunately almost innumerable. The number of deaths depends not merely upon the sanitary condition of the locality, or, speaking more broadly, upon its salubrity, but depends also upon the resistance of the individuals of whom the community is composed. When it is sought to analyze the factors that go to make up salubrity, it is found that they include the most varied conditions, as, for instance, the character and extent of changes of temperature, of the prevailing winds and humidity; the character of the soil; the character and location of dwellings; kinds of occupations; quality and availability of the food and water supply; the removal and disposal of wastes, and probably numerous other factors, all going to make up the entity called environment. The variations in the character of the population which determine the resisting qualities are equally numerous—age composition, racial lineage, vital resistance as affected by special causes, distribution by sex, intelligence, financial status, heredity, and other factors of this class.

In order, then, that the highest value may be obtained from the vital statistics that are being more and more extensively compiled every day, great attention must be paid to the scientific analysis of such statistics, not as mere figures only, but as representing scientific facts, so that they may actually afford a proper basis for rational sanitary measures rather than serve merely to flatter the community into a condition of self-complacency when the rates go down, and to frighten it into a state of panic when they go up.

If medical men would learn the value of such statistics when properly arranged and classified, and exercise a little more care in assembling the data, the problem of the statistician would be much easier. There is no place in which correct spelling and correct information are of more importance from a legal standpoint than on birth and death certificates; and it may be added that nowhere are the rules of accuracy treated with more indifference. The birth certificate should be the first official record of a person's name, the death certificate the last. "John Smith" in the former is not sufficiently identified by the name of "J. Smith" in the latter. Let physicians fully realize these truths and the greater part of the statistician's troubles will be over.

SANITARY STATISTICS IN MANILA.

The sanitary statistics of the city of Manila are relatively correct, though considerable trouble has been met with in obtaining birth certificates. Three years ago not over 40 per cent of the births were reported to the Bureau of Health; at present, fully 75 per cent are recorded. The difference is accounted for solely on the ground of persistent effort. Sanitary inspectors make inquiries as to new births at every house they visit, and baptismal data are obtained from the various churches, and every other available source of information is exhausted.

PROVINCIAL SANITARY REPORTS AND STATISTICS.

Complete forms for provincial and municipal sanitary reports have been in use for several years, but owing to the character of the transportation facilities and unfamiliarity of most of the presidents of municipal boards of health with the essential facts of sanitary statistics, the data collected have been incomplete and unsatisfactory; yet the elaborate system of reports has been continued more for their educational value than for any other reason. Such statistics as are received are classified and tabulated in the office of the statistical division of this bureau, but as yet they have not been employed very extensively in the published reports for the reason that their correctness is not properly attested.

A few of the provinces publish special bulletins of their own, in addition to rendering the prescribed forms.

Experience has taught that the only successful way to obtain vital statistics from remote municipalities is the exercise of patient but persistent prodding, and that the average president of a municipal board of health thus stimulated will furnish as complete statistics upon a considerable number of things as he will upon a few.

INCREASE IN POPULATION.

The population of the Islands in times of war and pestilence was stationary, but for the past three or four years, reports from all over the Archipelago show that the number of people is increasing at a satisfactory ratio, notwitstanding the high prevailing death rate among infants. Except in Manila and Tarlac Province, there has been no census since 1903. The Bureau of Health census taken last year showed that between 1903 and the close of 1906 there had been a steady increase in the population of Manila in all nationalities except Chinese and Eurasians, as follows: Americans, 8 per cent; Filipinos, 2 per cent; Spaniards, 14 per cent, and other nationalities, save the two exceptions mentioned, 27 per cent. The next census return will undoubtedly show a large increase in most of the provinces and municipalities.

In some provinces the number of persons recently vaccinated by the Bureau of Health is greater than the number reported by the official census of 1903. In the Province of Tarlac, with a census population of 113,513, the number of vaccinations was 155,679; in the Province of Cebu, with a census population of 653,729, the number of vaccinations was 744,314; and in the Province of Sorsogon, with a census population of 120,454, the number of vaccinations was 128,366. In these three provinces alone, there are at least 120,665 more inhabitants than there were found in 1903.

HEALTH RESORTS.

There are at least three things necessary for health resorts—pure air, pure water, and an agreeable climate. Several places in the Philippine Islands fully meet these conditions, but the only ones which are to any extent utilized by the public are Baguio, Los Baños and Sibul Springs.

The former is especially noted for its climate, and the latter two for their medicinal water.

Baguio is siutated in the mountain region of Benguet Province. Los Baños is on Laguna de Bay, only a few hours run from Manila by steamer. Sibul Springs is in Bulacan Province, and was formerly a Spanish resort. It has been taken over by the Government and the local conditions so improved as to obviate the contamination of the water by surface drainage.

To the popular mind, medicinal springs are endowed with an unvarying and unfailing degree of purity, but they share with other waters the likelihood of becoming polluted, either before or after issuance of the water from the ground.

Sibul Springs, once the Mecca of large numbers of the Philippine population, is again attracting much attention. Formerly, Sibul was rather difficult of access, but now it can be conveniently reached by railway to San Miguel de Mayumo, and then by carromata over an excellent new road 12 kilometers in length, which was constructed by the Government during the year.

The Bureau of Public Works has filled in and improved the course of the stream which flows through Sibul, and which has been largely responsible for the many mosquitoes previously encountered there. The spring itself has been inclosed with a reënforced-concrete wall and the baths have been reconstructed. Former analyses showed the presence of amœbæ, which were, no doubt, carried by the vegetable matter, filth and mud which was washed into the spring by the surface water. Examinations made since the stoppage of the sources of pollution show the water to be free from amœbæ or other animal forms, and chemically to be satisfactory, as shown by the following report:

Chemical analysis made by the Bureau of Science.

	Parts per million.
Reaction	Alkaline.
Total solids	487.6
(*a*) Fixed	458.0
(*b*) Volatile	29.6
Free or saline ammonia	0.0087
Organic or albuminoid ammonia	0.0337
Oxygen consumed	0.5
Chlorine	31.3
Nitrogen as nitrates	None.

Remarks: Satisfactory.

The Sibul Springs' water is undoubtedly a valuable one, being very beneficial in diseases of the intestinal tract, especially those of a chronic catarrhal nature, and will probably take the place of many foreign waters now sold in the local market. The baths, owing to the gases which the water contains, are most refreshing, and apparently of considerable value as an aid to the cure of the diseases for which the water is prescribed.

The report of an analysis made by a chemist prior to American occupation, is, by courtesy of the Libertas, in which it was published in the edition of February 26, 1907, given herewith:

Las sustancias anhidras dosificadas en un litro de agua mineral fueron.

	Gramos.
Acido sulfurico libre	0.018935
Acido carbónico, total	0.485270
Oxido cálcico en el sedimento que se forma por ebullición	0.208337
Oxido magnésico id., id	0.017265
Oxido cálcico en el agua hervida y filtrada	0.005702
Oxido magnésico id., id	0.010494
Acido sulfúrico	0.013734
Cloro	0.041883
Oxido potásico	0.006935
Oxido Sódico	0.024535
Acido silícico	0.037600
El residuo fijo obtenido por la evaporación directa de un litro del agua, y desecado á 18. C. próximamente, pesó	0.532000

Resultado analítico definitivo, deducido por cálculo. Un litro de agua mineral, á 28. C., contiene en desolución:

		Gramos.
Nitrógeno	21.796080 cc.	0.027377
Oxígeno	2.303648 cc.	0.003293
Acido sulfhídrico	1.224054 cc.	0.001894
Acido carbónico libre	51.960889 cc.	1.120995
Bicarbonato Cálcico		0.535724
Bicarbonato magnésico		0.054133
Sulfato Cálcico		0.013848
Sulfato potásico		0.001283
Sulfato sódico		0.008873
Cloruro magnésico		0.024582
Cloruro sódico		0.039055
Acido silícico		0.037600
Total de substancias mineralizadoras anhidras		0.868617

Clasificación—Aguas hipotermales; sulfhidricas, bicarbonatadas, cálcicas, nitrogenadas.

Comprobación del resultado del análisis:

		Gramos.
Total de substancias mineralizadoras según el cuadro anterior		0.868617
Nitrógeno	0.027377	0.335676
Oxígeno	0.003293	
Acido sulfhídrico	0.001894	
Acido carbónico libre	0.120955	
Acido carbónico formando sal ácida con carbonato cálcico	0.163693	
Acido carbónico formando sal ácida con carbonato magnésico	0.018464	
Diferencia correspondiente á la cantidad teórica de substancias fijas por litro		1.532941
Substancias fijas por litro determinadas experimentalmente		0.532000
Diferencia despreciable		0.000941

APLICACIONES TERAPÉUTICAS.

Indicaciones.—En las dermatosis húmedas, úlceras atónicas, herpetismo, catarros gastro-intestinales, dispepsias, disentería crónica, infartos hepaticos y en los desarreglos menstruales.

Contraindicaciones.—Afecciones del corazón y de los grandes vasos, gota.

Usos balnearios.—En baño, en bebida, tomando de dos á cuatro vasos diarios, y en chorro.

Temporada balnearia.—De Noviembre á Mayo.

At the last session of the Philippine Legislature ₱10,000 were appropriated for the purpose of still further improving the site and surroundings, with the view of making this water available and safe for a greater number of people than before.

In view of the improvements, and in view of the laboratory report on the water, the Manila drug stores have taken the matter up, and Sibul Springs water may be obtained at a reasonable price.

The military has established a sanitarium at Los Baños where soldiers and military employees suffering from syphilis and rheumatism are sent for treatment; convalescents are also sent to this resort. Besides the military hospital, a private sanitarium is conducted by a reputable physician.

Baguio is the summer capital and the principal health and climate resort of the Archipelago. The lower temperature has a remarkably exhilirating and refreshing effect upon persons who have been residing in the lowlands. For the great majority of the cases of amœbic dysentery, it is almost a specific. Malarial fever is unknown. The climate is well adapted to convalescents from typhoid and malarial fever, and other wasting diseases.

The military is constantly constructing additional buildings and increasing the capacity of its camp. A large modern hospital building was completed during the year. An appropriation has been requested from Congress for the construction of a brigade post in order that the necessity for returning troops to the United States every two years may be obviated by giving them the benefit of the Benguet climate. Mention has been made of this on page 9.

The Civil Government has also completed a modern hospital building at Baguio during the year. It is believed that confinement and many cases requiring surgical assistance, from which convalescence is necessarily prolonged, will avail themselves of the cooler climate.

The stay of a number of visitors at Baguio for a period of several weeks during the past few years at the beginning of the rainy season, has been made uncomfortable by attacks, the symptoms of which resembled the "hill diarrhœa" of other countries. No permanent bad effects have been noted, and it is believed that the symptoms are due to drinking water which has not been properly boiled and filtered. At the beginning

of the rainy season, large quantities of mica or some other mineral irritants are probably washed into the springs or other sources of water supply, and then ingested, which produces diarrhœa. Distilled water will be available next season, and it is believed that all who use this exclusively will not be affected.

NEW WATER SUPPLY OF MANILA.

With the completion of the new water system for the city of Manila, the cost of which is placed at approximately ₱4,000,000, one of the largest sanitary reforms undertaken by the American Government will have been concluded. It is confidently hoped that an improvement in the public health will be immediately noticeable, and that the great scourge of modern civilization, typhoid fever, will now not gain a foothold in the Islands.

The new water system will probably be completed long before this report is published. When the water becomes available, the health authorities will be spared many anxious moments, as the danger from pollution will be practically eliminated. It will not be necessary to send soldiers to protect the river as has been done in the past, for the reason that the intake is located beyond the line of human habitation, and the control of the intervening territory secured.

Too great emphasis, however, can not be laid upon the fact that all the water examined from rivers, streams or shallow wells in the Philippine Islands, has been found to contain amœbæ. It is not known whether they are pathogenic or not, and it is therefore urgently recommended that *all* drinking water be sterilized before use. It is, of course, too much to hope that all the residents will follow this advice at once, but it is believed that Americans, Europeans, and the better class of Filipinos, will continue to use distilled water.

The Military Government has its own distilling plants, while the civil employees purchase water from the Insular Cold Storage and Ice Plant.

SANITARY ANALYSES OF WATER.

Many samples of water have been examined bacteriologically and chemically by the Bureau of Science at the request of this office. This feature of the work has been extended to many provinces, whereas it was formerly largely restricted to Manila. In the case of public houses serving infected water, a reasonable time is allowed to make an improvement in the condition, and, if not done, the houses are closed until they comply with the requirements of the law.

DISTILLED WATER.

The division of cold storage of the Bureau of Supply furnishes all employees of the Civil Government with distilled water at a nominal charge.

The original source of the water is an artesian well seven hundred feet

deep. The water is first delivered to an overhead tank, from which it passes over hot plates, where it is raised to a temperature of 180° F.; thence it goes to the boilers where it becomes steam, and is used for the generation of power. The exhaust steam passes from the cylinders to piping which conducts it first to a sand filter, then to a charcoal filter, and finally to the condenser. So much of the outflow of water from the condenser as is not used in the manufacture of ice is again filtered through fine sand before running into the delivery pipes.

An analysis of this distilled water was made by the Bureau of Science on February 20, 1908, with the following result:

	Parts per million.
Total residue by evaporation	2.8
Volatile matter	1.2
Fixed residue	1.6
Nitrites	None.
Chlorine	None.
Oxygen consumed	None.

BOTTLED DISTILLED WATER.

To meet the demand of a large number of patrons desirous of having bottled distilled water delivered at their residence, a private firm and the division of cold storage now deliver water in boxes of six bottles.

The size of the bottles makes it convenient to store them in an ice chest, and water can be served directly from them, thus doing away with all danger of contamination.

Much of the value of distilled water is frequently lost by its coming in contact with unsterilized vessels after leaving the delivery wagon. Experience has shown that it is almost impossible to instill into the mind of the average *muchacho* a proper regard for sanitary precautions in the matter of drinking water. Typhoid, dysentery, and diarrhœa are frequently the penalty of carelessness in this respect.

The water is delivered within the city limits in tank wagons or in cases of six 2-quart glass bottles. Both the tanks and the bottles are carefully sterilized before being filled with water. The demand for distilled water delivered in bottles has far exceeded all anticipation.

An important sanitary reform has been inaugurated in this new departure, which merits the gratitude of the public and the sincere thanks of this bureau.

BIOLOGICAL STUDY OF THE WATER SUPPLY OF THE PHILIPPINE ISLANDS—NEW PATHOGENIC ORGANISM.

The paper of the above title was read at the last annual meeting of the Philippine Islands Medical Association by Dr. Ralph T. Edwards, of the Biological Laboratory of the Bureau of Science. He stated that practically all of the natural sources of water supply in the Philippines contain amœbæ and that the only water which had been found not to contain amœbæ was that taken from artesian wells. Experiments which

he conducted with different filters led him to the conclusion that the only safe water to drink was that which had either been distilled or boiled. His examination of the aërated bottled waters sold in the local market showed the same to be fairly satisfactory.

In an examination made of a specimen of water taken from a well in Calle Cabildo, Intramuros, Manila, a pathogenic bacillus was detected which he named the *Bacillus Cabildonus*. This organism was found to be of extreme pathogenicity in small animals.

ARTESIAN WELLS.

As stated elsewhere, the Legislature of the Philippines has indorsed the artesian-well movement by appropriating the sum of ₱150,000 for the extension of the system. The success attained by this measure of public sanitation, in reducing the death rate 50 per cent in many instances in those municipalities in which wells had been sunk, has already taken the project out of the experimental stage and placed it on a firm foundation supported by a growing, favorable public sentiment which will be greatly enhanced by the recent action of the legislature.

The Bureau of Public Works is now busily engaged in sinking the wells for which appropriation has been made.

THE GOTA DE LECHE SOCIETY.

On the 1st of December, 1906, the Gota de Leche Society was formally organized, and incorporated later under the name of La Protección de la Infancia. It is conducted principally by Filipina ladies, aided by a number of American ladies. The organization, as its incorporated name implies, is a society for the protection and care of infants. It is organized along the same lines as similar societies in European cities.

According to carefully prepared estimates, the mortality among maternal nursed infants under two years of age in the city of Manila is less than one-tenth of the mortality in bottle-fed children. What is true of Manila will probably hold good throughout the provinces, but no statistics are available to safeguard the assertion.

Dr. David J. Doherty, of the city of Chicago, was one of the prime movers in the organization of the Manila society.

DAIRIES AND DAIRY PRODUCTS.

The Sanitary Code makes it unlawful to bring into the city of Manila or sell, or offer for sale, any milk that is not fresh and wholesome, or that has been watered, adulterated, reduced, or changed in any respect, by the addition of water or any other substance, or by the removal of cream; except that milk from which any part of the cream has been removed may be offered for sale, or sold, if the fact is publicly advertised on the cart, or in the place of business of the vender, or made known to the purchaser at the time of sale. Adulterated milk is defined as (*a*) milk containing less than 12 per cent of milk solids, including fats; (*b*)

milk containing more than 88 per cent of waters or fluids; (*c*) milk containing less than 3 per cent of fats; (*d*) milk drawn from animals within fifteen days before or five days after parturition; (*e*) milk drawn from animals fed on any substance in a state of fermentation or putrefaction or any unwholesome food; (*f*) milk drawn from cows in a diseased or unhealthy condition, or from cows kept in a crowded or unsuitable place; (*g*) milk from which any part of the cream has been removed; (*h*) milk to which has been added water or any foreign substance whatever.

Dairymen or other persons having in their possession milch or dairy animals, the milk of which is to be sold or distributed in the city of Manila, are required to have such animals, prior to the sale of the milk, subjected to the tuberculin test in order to determine the presence of tuberculosis.

Before the Bureau of Health established a system of strict surveillance over the sale of milk, the practice of adulteration by water was quite prevalent. The principal adulterations were, in the case of cow's milk, the addition of water and the abstraction of cream. The former greatly diminished the nutritive value, and as the water was frequently from an unclean source, it was the means of introducing disease organisms; the abstraction of the fats robbed the milk of one of its most valuable constituents.

The addition of coloring matter for the purpose of concealing the evidence of adulteration or the abstraction of cream had not become a general practice, but, no doubt, in the course of time, it would have become popular. Rice starch was sometimes used to thicken a diluted milk, and to the uninitiated it was a measure of the "fuerza" (strength) of the product.

In temperate zones it is generally regarded that a milk not more than twenty-four hours old may be considered a fresh article; but in this climate it would be permissible to allow even half that many hours unless the milk had been kept at a very low artificial temperature from the time it was drawn.

The milk supply in the Philippines is so limited that there is very little demand for pasteurization and sterilization as permanent preservative methods, the only process resorted to being that of reduction of temperature, as the Food and Drugs Act prohibits the use of chemical preservatives.

Milk was formerly a more important factor in the spread of disease than it is now since the dairies and milk venders are so closely watched. There are stringent laws against the use of milk from animals suffering with rinderpest, foot-and-mouth disease, anthrax, surra, actinomycosis, tuberculosis, or other diseases of an infectious nature.

There is no doubt that the milk supply of the Philippine Islands is sometimes responsible for the introduction of the tubercule bacilli into

the human system. This statement is made without reference to the merits of the controversy as to the identity of bovine and human tuberculosis. The fact alone that warm milk is such an ideal medium for the transmission of bacteria is sufficient to justify the hypothesis, if there were no reasons to suspect the direct transmission of the disease from the infected animal to the user of the milk.

In the Philippines, and other tropical countries, milk has a better opportunity to become contaminated than in cooler climates, especially as containers and vessels of all kinds are usually washed in cold, unsterilized water. Then, there are the regular channels of infection; that is, from the hands, person, and clothing of the milkers, venders, and others by whom it is handled.

It is prescribed by administrative and ordinance regulations that no person sick with or convalescent from infectious diseases or having to do with the care of the sick or with the disposal of their excreta or with the washing of their clothes, shall be allowed to handle milk intended for the use of others, but it is not always practicable to enforce this regulation except among such employees as drivers and others whose duties bring them within the realm of constant inspection.

The poorer classes in the Philippines use the milk of the carabao almost exclusively, while the upper classes use goat's milk and the milk of the cow. Australian dairies may be found in Manila and in the larger cities, but on account of the prevailing high prices, the poor people can not afford to purchase this class of milk.

Gradually the conditions are improving, but success is dependent on continuous strenous effort and watchfulness. The same methods and measures enumerated in last year's report are still employed. Samples are collected from each district daily and submitted for analysis, and prosecutions are instituted in all cases of flagrant willful violation of the law.

Owing to the scarcity of milch animals, the use of condensed milk by the poor, and imported sterilized milk by the better classes, is quite prevalent. Sterilized milk in hermetically sealed cans is imported from Switzerland and Italy, and has proved to be a very satisfactory substitute for the fresh article.

Butter and cheese are practically all imported from foreign countries.

ADMINISTRATION OF THE FOOD AND DRUGS ACT.

Judging from the character of the foods which were rejected at the time this law went into effect, it appears probable that much of the illness that has heretofore been ascribed to the tropical climate was likely not due so much to the effects of the climate as to the added chemicals which the food products contained which are prepared by foreign manufacturers for the use of residents of tropical countries.

The administration of the Food and Drugs Act has been conducted with gradually increasing adherence to the letter and spirit of the law.

There were examined during the year a total of 696 samples of food and drug products. Of this number, 89 were rejected, and 172 misbranded, which were released upon being properly relabeled. Of the total number of samples examined, 561 were products which had heretofore not come under laboratory observation. Of this number, 77 were rejected, and 160 misbranded. Many of the importations were either denied admittance or were only admitted after being relabeled, because they were of the same brand as shipments which had been denied admission as the results of other analyses.

There have been very few willful evasions of the law, and the merchants of the Philippines have shown a most commendable spirit in their efforts to comply with the requirements.

Some idea of the extent of the sophistication and fraud practiced before the passage of the Food and Drugs Act may be gained by a brief consideration of a few of the commoner evils that prevailed. An article in "Colorado Medicine" by Dr. Edward C. Hill, recently published, so closely coincides with the facts in the Philippines, and fits the case so well, that it is liberally quoted from in making reference to former conditions.

Most reprehensive of the practices were in the nature of sophistication; that is, the addition or substitution of comparatively harmless substances, which were injurious, however, from a negative standpoint, through deprivation of the displaced normal ingredients, and because of the impairment of the natural flavor upon which good appetite and digestion largely depended.

Water was sometimes added to lard up to 24 per cent, with the aid of lime or carbonate of sodium or potassium. "Renovated process" or "hash" butter was prepared by heating and treating with sodium carbonate. Rennet, or a mixture of pepsin and sodium sulphate, or gelatin and glucose, were added to butter (stretched butter) to make it hold more water (up to 50 per cent) and so increase its weight. "Refined" or "compound" lard was a mixture of beef fat and cotton seed oil. Lard was also adulterated with starch, lime, alum and salt. Colored oleomargarin was sold for butter. This product, if pure, is wholesome and nutritious, but is not so readily digested as butter, hence is contraindicated for invalids. "Butterine" had lard and oleo oil added to the milk before churning.

Skimmed milk cheeses were occasionally "filled" with lard, cotton-seed and other oils, but such sophisticated products lacked the natural aroma and flavor. Olive oil was extensively adulterated, especially with cotton-seed oil (sometimes with peanut or sesame.) There is no objection to this from the hygienic or dietetic point of view, but it is nevertheless a fraud. Almond oil was often adulterated with the poisonous oils of peach and apricot kernels. Menhaden, whale and seal oils were used to adulterate codliver oil.

Starch was a very common "filling" agent (increasing weight and capacity for water) in potted beef and poultry, patés, sausages (preventing shrinkage when fried), yeast, baking powders (up to 50 per cent—should not have exceeded 20 per cent), ground mustard and canned corn (rendering liquid more creamy). "Lemon jelly" was made from starch and tartaric acid. Potato starch was often mixed with sago. Extract of yeast was sometimes found in meat extracts. Wheat flour was occasionally adulterated with corn meal and other cereals. "Buckwheat" flour used to be a mixture of rye, maize, wheat, etc.

Cane sugar was sometimes added to honey and to Indian corn which was lacking in sweetness. Much more objectionable was the use of saccharin in corn and tomatoes. Jellies and jams were often nothing more than glucose, gelatin and starch paste flavored with essential oils and colored with anilin dyes. Apple stock (pulp, skins, seeds, cores), pumpkins, turnips, and molasses were the common bases for all kinds of jelly sold in stores. Glucose is also a leading component of imitation honey, maple sirup, and fruit butters. Glucose is only half as sweet as cane sugar, but it is not injurious to health, except as it may contain sulphuric and sulphurous acids, used in its manufacture and not completely removed. Cheap confectionery was composed largely of glucose and starch colored with anilin dyes. The use of paraffin in butter scotch and chocolates is dangerous, because of its insolubility.

Foreign mineral contamination, accidental or surreptitious, is usually negligible in quantity. Actual dirt is sometimes left purposely in truffles. One seldom encounters of late ground gypsum, talc, terra alba, silicates, marble, or chalk, in confectionery or flour; iron or brass filings, soapstone, gypsum, or sand in tea; lead salts and iron oxid in cocoa, or sand in sugar. Arsenic (from pyrites used in making sulphuric acid, for manufacturing glucose) is an occasional dangerous, even fatal, contaminant of beer and soda water. Lead compounds have been added to wines to sweeten the product. Tin, lead and zinc, from can solder, may accidentally contaminate canned meats, fish, and fruits—danger enough without adding to it by supplying these poisons. Varnishing the inside of the cans prevents electrolytic solution of the metals. A trace of zinc is sometimes found in dried apples, from the use of galvanized iron racks. Molasses manufactured in the old way should hardly be considered an edible substance, since it contains tin chlorid, zinc salts, and sulphurous acid used in refining the sugar of which it is the residue. Solutions containing copper, lead, mercury or asenic have been applied to the outside of cheeses to preserve them from insects. The "bloom" of lime on nutmegs answers the same purpose.

According to Wiley, the basic sulphate of aluminum is the acid ingredient in the great majority of present-day baking powders. He says that if the proportion to baking soda is properly balanced, the powder leaves on reaction aluminum hydrate (not ordinary alum) and the

sulphates of sodium, potassium or ammonium (ammonium carbonate sometimes used as alkaline agent). Alum baking powders have no marked effect on the health, except a tendency to produce constipation, but yeast bread is probably more hygienic than that prepared with these powders. Alum was frequently added to baker's bread to render it hygroscopic and whiter and to prevent souring. It was also found in pickles and ground ginger.

Ground spices were commonly sophisticated with fruit stones, hulls and shells, flour, starches, cereals, ground shipbread, charcoal, sawdust, clay, gypsum, and cheaper spices. Whole ginger was sometimes "white-washed" with chalk or plaster of Paris, or bleached with chlorinated lime or sulphurous acid. Ginger, previously exhausted by the ginger-beer manufacturer, was often sold as genuine. Whole black mustard was frequently mixed with rape seed. Pepper used to contain a large proportion of sand and other mineral matter. Unground pepper berries were sometimes weighted by saturating with brine, or whitened by bleaching or facing with chalk. Cayenne pepper was, at times, weighted with red lead.

One of the most dangerous and reprehensible forms of adulteration was the use of wood alcohol in cheap flavoring extracts. "Lemon extract" was sometimes made from the oil of grass. "Vanilla extract" was frequently prepared from the tonka bean.

Cocoa and chocolate were adulterated with vegetable oils, mutton tallow, clay, brick dust, and Venetian red. So-called soluble cocoa was prepared with sugars and starches, particularly arrowroot. Ground coffee was commonly sophisticated with the darker, more bitter chicory, which itself might have been adulterated with beets, mangel wurzel, dandelions, oak bark, sawdust, and colored earths. Spent coffee beans were now and then roasted with sugar and sold as genuine. Package substitute coffees consisted of roasted ground peas and cereals.

Many were the deceptive names of food preparations. "Full cream" cheese simply meant cheese made from the whole milk. "Egg powders" for making cakes consisted of colored casein or starches. "Raspberry sauce" was frequently made almost wholly from gelatin. Gluten flour always contained starch, the standard not over 48 per cent.

A frequent form of simple fraud was misnaming a natural product as to its geographic origin; for example, the Maine herring sold as the European sardine. Horse flesh and other meats of uncertain origin were occasionally utilized in sausages.

A very frequent kind of adulteration was the addition of coloring matters and other substances to "improve" the appearance or taste. Such "improvement" is deceptive, and panders to a semibarbaric taste for high colors and flavors. The natural colors in cochineal, burnt sugar, annatto, saffron and chlorophyl are considered harmless, but only a few anilin dyes have escaped condemnation by experts. There have been

several deaths in young children from eating the concentrated colors. These dyes may contain arsenic or mercury, used as oxidizers in their manufacture. The coal-tar dyes are cheap and were used very extensively in confectionery, ice cream, jams, jellies, wines, sausages, mince meat, pie fillers and maraschino cherries. Practically all butter was artificially colored, sometimes with marigold, turmeric, saffron, or annatto; often with coal-tar dyes, especially methyl orange and carotin. If it is really desirable for butter to have a rich yellow tinge, this can be accomplished in a natural way by feeding the cows carrots, rutabagas, yellow maize and clover hay. Cheese was colored with carrot juice, saffron, annatto, turmeric, and yellow azo dyes. Naphthol yellow was used in cakes. Curcuma was commonly added as a coloring agent to ground ginger, mustard and rhubarb. Gelatin and caramel were sometimes put into milk or cream to make them look richer. "Viscogen," a sirup of lime (6½ per cent) was used to give body to creams.

Mineral coloring matters are much more objectionable than vegetables. The oxids and salts of arsenic, copper, chromium and lead are especially injurious, and have been found in confectionery, flour, cakes, and cheese. Copper sulphate and nickel salts give an intense green color to cucumber pickles and canned peas which are imported into this country. Stannous chlorid precipitates the coloring matters from syrups and gives a bright yellow appearance. Tea leaves were faced with lead salts or Prussian blue.

Bleaching agents in food are of hygienic importance. Sulphurous acid (the fumes of burning sulphur) is used with dried fruits, starches, wines, and finished sugars (may contain salts of tin or ultramarine blue). Bisulphite of sodium or potassium was formerly used with canned corn. Inferior flour was bleached by electrically generated ozone and oxids of nitrogen. Saponium was added to soda water syrups to give a good foam; this often caused gastritis.

"Soaked" or "floated" oysters looked plump, but readily lost flavor and frequently became infected from the water or ice used.

Imitation maple sirup was made of extract of hickory bark (mapleine) with glucose or cane sirup. Synthetic imitation fruit flavors and sirups were commonly utilized for cakes and ices. Sauces were sometimes rendered piquant with sulphuric acid. Alcoholics and poisonous flavors (oil of mirbane) though injurious, were made use of in candies.

Alcoholic liquors used to be commonly adulterated; beer with quassia, gentian, columbo, chiretta, chamomile, kino, cream of tartar, copperas, orris root, picric acid, strychnin, picrotoxin, wormwood, capsicum, cinnamon, ginger, and other spices. Sodium bicarbonate was used in beer to correct acidity and increase the bead. Glycerin sweetens the beverage and gives it body. Poisonous fusel oil is present in young raw whisky and in imitations.

Cheap wines were made from raisins, dried apples, raspberries, and

gooseberries. Champagne has been made from gooseberries and water. Gin was often concocted from a mixture of water, sugar, cinnamon, alum, capsicum, cream of tartar, and a little alcohol. Prune juice was frequently added to factitious and fictitious rum. Alum heightens the color of wines; added acids imitate the reaction of mellow age. Cheap wines were "plastered" with calcium sulphate, which preserves the product and improves the color by forming an acid sulphate of potassium and separating out tartrate of potassium.

The question of the use of chemical preservatives in food has long been a storm center of controversy between sanitarians and manufacturers. Dr. H. W. Wiley, Chief of the Bureau of Chemistry, Department of Agriculture, the foremost authority upon this subject, declares that nearly all food preservatives (including borax, boric acid, sodium sulphite, and benzoic acid) used continually, have a deleterious effect upon digestion and are irritating to the kidneys. He holds that sterilization suffices for canned meat, and that grain spirit and the simple condimental substances (salt, sugar, spices, vinegar, wood smoke) in moderate quantities are the only unobjectionable added preservatives. One important objection to food preservatives is the stale condition which they hide, though not preventing the formation of autolytic enzymic products detrimental to health.

Borax and boric acid have been extensively used in milk, cream, butter, meats, beef juice, broken eggs (2 to 4 pounds of borax per 100) and oysters.. Borax and sodium carbonate are sometimes added to tea to improve the color of the infusion. Borax and boric acid (not over 1½ per cent) have been recommended by Vaughan as an application to the surface of hams and bacon, to prevent the slimy decomposition due to anaërobic bacteria. "Preserving salts" contain about 30 per cent borax and 10 per cent common salt. A popular "preservaline" contained of borax about 70 parts and of salt about 30 parts. "Ozone antiseptic" is composed of 2 parts boric acid and 3 parts borax.

Sodium sulphite and saltpetre were added to meats to preserve the red tint of the fresh article. "Meat preservative" contains 65 per cent sodium sulphite, and 34 per cent sodium sulphate, colored with anilin dyes. A recent federal inspection decision permits the presence of 350 milligrams of sulphur dioxide (not over 70 milligrams free) per liter in wines and molasses. Glycerin was used to preserve beef juice and bone marrow. In large amounts it may have a hemolytic action, as shown by the urine. Benzoic acid or sodium benzoate was frequently added to meats, fruit juices, catsups, jams, jellies, and fruit butter. In viands like catsup, necessarily exposed to the air some time after opening, sodium benzoate is generally considered still permissible in the proportion not to exceed one part in 1,000. Salicylic acid, hitherto used in fruit juices, jams, jellies, milk, wines, beer, and catsups, is now rightly prohibited.

A most reprehensible practice was the addition of formaldehyde (" freezine, icelene, preservaline, milk sweet") to milk, wines, broken eggs, and shucked oysters.

Dr. Wiley reported to the Committee on Agriculture of the House of Representatives of the United States Congress, the result of the experiments conducted by the Bureau to determine the poisonous effects on the human system of such drugs as borax, benzoic acid, benzoate of soda, sulphate of copper, sulphur dioxide, formaldehyde, and salicylic acid, when contained in food stuffs. He said that the expulsion of those and kindred drugs from the body is performed almost entirely by the kidneys, and that he is satisfied that the term of American life would be lengthened if the use of such drugs in foods were wholly discontinued. He said he is convinced that kidney disease, so prevalent among Americans, is partly the result of constant introduction into the system of such preservative substances as benzoate of soda, carried in the food. Discussing sulphur dioxide and its injurious effects, Dr. Wiley told the committee of a discovery just made by him that salt solution is a perfect substitute for sulphur in the whitening and drying of fruits. In the samples exhibited, dried experimentally by the Bureau, the sulphured fruits were not so white nor so tender as the salt cured.

The consumer, as well as the manufacturer, is entitled to a "square deal." Deleterious substances should not be permitted under any consideration, and also adulterations and sophistications not manifestly injurious should be plainly labeled, so that the public may know what they are getting. No other law enacted by Congress has had such a universally beneficial effect upon the people at large. The Philippine law is nearly an exact repetition of the law of the United States, and has almost revolutionized the food situation in these Islands.

AERATED WATERS.

It is most satisfactory to report that samples of aërated waters which were collected from practically every factory of this kind in Manila showed that the use of sterilized water for this purpose has now become general, and for that reason it was unnecessary to recommend any prosecutions on this account.

THE PATENT AND PROPRIETARY MEDICINE EVIL.

The administration of the Food and Drugs Act has included close supervision of the importation, manufacture and sale of patent and proprietary medicines. Some flagrant frauds have been exposed, and the people are beginning to realize that some of the medicines widely advertised as harmless contain dangerous substances, while others claiming powerful action, consist of inert and harmless mixtures.

When the truth dawns on the public that in patent medicines it is all

in the advertising and the principal good accomplished is the stimulus to the circulation of money by the commercial side of this evil, the sale of such so-called remedies will grow less and less.

FREE-DISPENSARY SERVICE.

The Bureau of Health has maintained three dispensaries in the city of Manila; one at the Central Office, one at the San Lazaro Hospital, and one at the Civil Hospital; besides, there are five smaller dispensaries corresponding to the number of health stations. In each of these stations surgical and medical clinics are held daily by the municipal physicians and medical inspectors.

The Bureau has supplied the St. Luke, the St. Paul, the Methodist, and the Philippine Medical School dispensaries with certain quantities of drugs to be used in their respective clinics.

In the central dispensary alone, 26,750 prescriptions were filled.

The masses of the Filipino people are gradually deserting their "mediquellos," whose diagnoses and methods of treatment are relics of barbarism, and are turning to the regular physicians. It may just as well be stated here as elsewhere that the Filipino physicians, greatly to their credit, are very little tainted with the false doctrines and delusions of the irregulars, and that they have been largely instrumental in standardizing and elevating the methods of medical practice in this portion of the Far East.

PUBLIC MARKETS OF MANILA.

The long-continued controversy between the Bureau of Internal Revenue and the department of sanitation and transportation of the city of Manila with regard to the extent of authority over the public markets of Manila, has now been placed on a definite and satisfactory basis. The work of renovating and regulating the markets of the city has been undertaken by the department of sanitation and transportation, on the completion of which, the administration of all the markets will be turned over to this department by the Bureau of Internal Revenue. At the present writing, the markets of Quinta and Sampaloc have been completed, and are under the control of the department of sanitation and transportation. Work on the Divisoria Market is under way, and will probably be completed in the course of a few weeks, at which time the department will take control.

The collection of the market fees, of course, still remains with the Bureau of Internal Revenue.

The Bureau of Health has been particularly pleased with the system of administration adopted, and with the promptness with which the chief of the department of sanitation and transportation, Mr. J. C. Mehan, has carried out the suggestions of this office with regard to certain features of public sanitation.

The improved conditions in no wise reflect upon the former management, but go to prove that the highest state of efficiency can not be obtained when there is embarrassing intermingling of authority.

PROVINCIAL MARKETS.

In the report of this Bureau for last year, under the subject of provincial markets, attention was called to improvements that had been brought about in the sanitation of this class of public institutions. Under the new system, the sanitary conditions of the market must be reported on by the local sanitary officers. These reports go to the district health officer who sees that the cause for complaint, if any, is removed.

Market venders are required to keep their perishable and easily-contaminated food stuffs covered so as to avoid infection from flies or roaches.

The little points of market sanitation are continually being urged lest the people forget and conditions drift back to their former status.

The construction of modern permanent market buildings has been undertaken in many of the provinces, and they mark a distinct step in advance in permanent sanitary improvements. Among the municipalities that have constructed new modern markets should be mentioned Pasig, Malabon, and Baguio.

The Moro Government has established in Zamboanga district more than half a hundred Moro exchanges or markets. These institutions are kept in a cleanly attractive condition, and serve as a clearing house for the industries of the Moro people. There has been great improvement in the habits and customs of the people with respect to market sanitation in the majority of municipalities.

PUBLIC CLOSETS.

The frequent recommendations of the Bureau of Health that the number of public closets be increased have finally received recognition in that the Municipal Board has recommended the setting aside of sufficient funds to install at least twenty-five of these public conveniences in different sections of the city.

DISPOSAL OF NIGHT SOIL.

The question of the proper disposal of night soil in the city of Manila will be settled when the new sewer system, now well along in the course of construction, is completed. The filthy practice of the Chinese market gardeners in sprinkling a solution of night soil over growing vegetables led to the passage of Act No. 1226, which absolutely prohibits any market gardener, farmer, or other person from making use of human excreta as a fertilizer for crops of any kind. This act was passed as a preventive measure against cholera, and has been productive of great good; nevertheless, the restricted utilization of night soil as a fertilizer

for nonedible plants is not objectionable, and could be rendered profitable and harmless by proper treatment, as is evidenced by the fact that the city of Hongkong realizes ₱75,000 a year selling this material for fertilizing purposes, while Tokyo adds annually ₱3,000,000 to its treasury from the same source. Night soil is rendered innocuous by burying it for several months in deep, well-protected pits, in order that it may be exposed to the action of nitrifying organisms. The level of the top of these pits is at least 6 feet below the level of the ground surface, which makes it possible to cover them over so as to prevent the escape of noxious odors. As soon as the matter has been thoroughly digested by the bacteria, the pits are opened and the resultant mass sold for the fertilization of mulberry trees on the leaves of which silkworms are fed. Experiments conducted by the Bureau of Science have demonstrated that silk culture is feasible in the Philippine Islands, and could be made a profitable industry.

Now, inasmuch as practically all the provincial towns are without satisfactory means of night-soil disposal, the burden of the work falling upon wandering pigs who are more faithful than cleanly in their habits, this office can see no reason why the municipalities, acting under proper instructions, might not conserve this material, convert it into a harmless fertilizer, and utilize it in the fertilization of mulberry trees, for feeding the silkworms. The silk industry can and ought to be made one of the chief industries of the Philippine Islands. This office is ready to coöperate with any movement of this kind, provided it is safeguarded by proper sanitary precautions.

SUPERVISION OF PILGRIMAGES.

The sanitary supervision of all the pilgrimages and fiestas held throughout the Philippines would be an impossible task with the present force, so the efforts of the Bureau in this direction are limited to the larger assemblages which nearly always involve grave danger to the public health. The smaller gatherings necessarily have to be left to local supervision. Notwithstanding all that has been done in this direction, these ancient customs of the country are still important factors in the diffusion of cholera. These occasions bring together thousands of people, men, women, and children, of all ages and conditions of life, who, for the time being, forget everything else save the festive pleasures in which they join with a zeal that knows no danger. Feasting is one of the essential features of such gatherings. Food is brought from cholera-infected districts and even from invaded homes, and with that sincere hospitality so characteristic of the Filipino people, is distributed to all who will partake. Close communion forms no part of the social creed of the country.

Patients in the incubation stage of cholera often freely mingle with the well, and since the means for the disposal of the excreta of so large

a number of people are inadequate, it will be readily seen how the disease may be spread by means of these festive gatherings.

On examining a cholera route map a few days after one of the fiestas has taken place, it may often be observed that the lines of infection radiate in all directions like spokes of a hub, corresponding to the homeward routes of the people.

Consideration for the religious sentiment, respect for time-honored customs, and the disinclination to oppose the commercial interests of the numerous small merchants who profit by these occasions, naturally make the local officials timid in exercising such authority as would interfere with the convenience, pleasure or comfort of their fellow townsmen or their guests; thus, many things which should be done are passed over.

The pilgrimages to Antipolo on the occasion of the celebration of the feast of "Nuestra Señora de Paz y Buen Viaje," in which vast concourses participated, estimated at 10,000 persons or more per day, have demanded the closest supervision in the past. At such times, arrangements were made with the city of Manila for the installation of a temporary pail-conservancy system. Sanitary supervision and inspection were also placed in operation under a medical inspector of the Bureau. The problem was simplified this year by a general conflagration which destroyed the town just as the fiesta was about to be opened, and very few people celebrated during the last season. Notwithstanding, the grounds became insanitary through the lack of latrine facilities. This condition, however, was corrected after a number of conferences with the local officials.

THE PHILIPPINES CARNIVAL.

The Philippines Carnival was held in the city of Manila February 27 to March 3, inclusive. Dr. Percy L. Jones, captain, Medical Corps, United States Army, was appointed chief sanitary officer of the Carnival. He had been connected with the sanitation of the Jamestown Exposition in the United States, and was especially prepared for his assignment; and to him is due the excellent sanitary condition in which the grounds and buildings were kept. The Sanitary Code of the city of Manila was used as a basis on which to work, and it was found sufficient to cover all questions that arose. Inspectors from the Bureau of Health and the city of Manila were detailed to aid in the work. The removal of garbage, night soil, rubbish, and other waste matter was carried out by the department of sanitation and transportation. Public closets were installed, and distilled water used for the preparation of drinks and general drinking purposes. The sale of food stuffs which might be easily contaminated was prohibited. An emergency hospital of six beds was established on the grounds. In spite of the fact that probably as many as 10,000 people were in the grounds at a time, no case of cholera was contracted there, although the disease was present in the city.

MEDICAL INSPECTION OF PUBLIC SCHOOLS.

The primary object of medical inspection of school children has for its purpose the prevention and suppression of communicable diseases. No state or government is justified in enacting compulsory school laws to enforce the attendance of children at schools until it gives its official guaranty that every reasonable effort will be made to render such institutions safe places for the care, comfort, and instruction of the pupils. The school life of children is a formative period and the forces, mental, moral, and physical, which make for their future weal or woe, for character or moral chaos, for health and happiness or disease and sorrow in the lives of those who are being trained for future responsibilities and duties, should be the object of profound solicitude to those who are charged with the preparation of the youth of the land for citizenship. These forces involve such questions as the influence and aptitude of teachers, the proper location of school buildings with regard to pure air and good drainage, the construction of the buildings themselves, the regulation of window space, the direction of light, and the facilities for orderly exit in case of danger. The question of overcrowding, the use of poor drinking water, the providing of clean, attractive lavatories and closets, and the maintenance of the same in a sanitary condition, the proper slant and height of school desks, and the position of the body of the child, are all features of the question which directly and indirectly influence the public health. Many of the most distressing and humiliating diseases incident to human existence can be traced to the school life of the sufferers.

The protection of the pupils against dangerous communicable diseases is a duty of the profoundest importance and belongs both to the domain of the sanitarian and the school authorities. Medical inspectors of public schools can not work in opposition to the convenience and sympathies of the teachers of the community. There must be coöperation and mutual interests. The school is chiefly for educational purposes and the utmost tact and patience are required in the adjustment of the questions which may arise.

Medical inspection of the public schools of Manila was first begun under the auspices of this Bureau during the year 1905, but was abandoned on account of the outbreak of an epidemic of cholera which necessitated the presence of the medical inspector in charge of this work elsewhere.

The work was again resumed in 1906 by the employment by the Bureau of Health and the Bureau of Education jointly of a lady physician, Dr. Anna D. Peck. After a system had been decided upon and placed in thorough working order, Dr. Peck was transferred to the Bureau of Education, and the item of medical inspections of public schools made permanent in the expense estimates of that Bureau.

According to the official reports of the medical inspector of schools, 22,300 cases were recommended for treatment during the fiscal year. These cases were taken care of principally at the health stations of this Bureau, and also by the University, St. Paul, and Civil Hospitals. There were also several dental cases which were cared for at the free dental dispensary of the St. Paul's Hospital.

The statistics as prepared by the medical inspector of schools are published in the Appendix to this report.

DEAF MUTES.

The Bureau of Education has established a school for deaf mutes, in which the pupils are taught to read and write and to converse by means of the deaf and dumb alphabet. The girls learn to sew and cook, and the boys are instructed in the use of tools or in whatever work they like best. In times gone by, such pupils were classed as "foolish" and no effort was made to improve their condition. From the health officer's point of view, this feature of the educational system is of the highest importance and ought to be extended to the provinces.

PUBLIC AND PRIVATE CHARITIES.

Not an inconsiderable amount of the energy of the Bureau of Health is taken up with the administrative work entailed by the appropriation which is made each year for public charity. This fund amounts to about ₱80,000, and provides clothing, lodging, and subsistence for over four hundred people, and outside relief to some thousands of others.

The medical officers of the Bureau of Health have charge of the admission of the patients for which the Municipal Board has contracts with the San Juan de Dios and the St. Paul's Hospitals and the Philippine Medical School, a total of 150 beds being available in addition to the relief mentioned in the preceding paragraph.

The University Hospital, the Mary J. Johnston Memorial Hospital (for women and children), the Chinese Hospital, all private institutions, and the Philippine Civil Hospital, the San Lazaro Hospitals (communicable diseases, insane, and drug habits), and the health stations, all Government institutions, are working for the upbuilding of the Filipino people. The Bureau of Health has a contract with the Hospicio de San José for the care of indigent orphans and old people.

This spirit of helpfulness has pervaded the provinces. The mission districts are being supplied with medical missionaries, and every effort is being made to demonstrate the benificent purposes of the American Government and the grandeur of American citizenship.

The extent of the charities of the Government and of the various religious orders and churches is remarkable, especially when it is remembered that with all that has been done, the native has not been deprived in any degree of his self-respect and pride.

MEDICAL EXAMINATION OF IMMIGRANTS.

This branch of the sanitary work is conducted under the provisions of the United States immigration laws, and is performed by the medical officers of the United States Public Health and Marine-Hospital Service. During the year 7,864 aliens were examined, and 51 rejected. The rejections for the most part were on account of trachoma.

The more virulent form of trachoma is scarcely known in the Islands, and the exclusion of aliens who are afflicted with it will do much toward preventing this disease, which is responsible for 15 per cent of the blindness in the United States, from gaining a foothold.

INSULAR QUARANTINE.

Insular maritime quarantine is exercised through the local health and municipal officials throughout the provinces, except at ports of entry, at which places United States Quarantine officers are stationed. It has seldom been necessary to impose quarantine through the means of local health officers, because vessels which are affected by it practically always came under observation at a port of entry, where the quarantine officers perform the necessary service.

At the port of Manila, an outgoing quarantine was imposed upon inter-island vessels for the greater part of the year, in order to prevent the spread of cholera to other islands by maritime routes. This proved entirely effective. The imposition of general land quarantine has been entirely abandoned because it is ineffectual when not supported by military force, a policy that is deemed inadvisable.

VACCINATION.

The stupendous figures of 1,686,767 persons vaccinated during the year are again conclusive evidence of the large amount of sanitary work being done, and it is believed that in no other country has so large a percentage of the population been vaccinated in the same length of time.

The systematic method of vaccinating has again thoroughly proved its advantage over the methods employed during the first years of the Board of Health. More than three times as many persons were vaccinated with the same amount of money. It now costs approximately 2½ centavos per capita, while formerly the cost was 7½ centavos or more per capita, and the later results are fully as good. It will be noted that this improved administration has resulted in the saving of many thousands of dollars to the Government.

The vaccination of so large a number of persons in the Philippines during the last year without a death is striking evidence of the care with which vaccine is prepared and applied. Voight reports that in Germany one death occurred in 65,000 vaccinations. Even at this rate, it is better that one should die in order that 65,000 might live and avoid disfigurement.

The mortality from smallpox among Filipinos is usually from 5 to 10 per cent, while among Americans and Europeans it is often 75 to 90 per cent. The greatest error with which any person can delude himself, and the one on which false beliefs of personal immunity are based, is that, because he has repeatedly been in the presence of the disease, and has not taken it, he is immune. Others delude themselves with the idea that one successful vaccination, perhaps in infancy, is protective for all time to come. If the tenets of the believers in "New Thought" and Christian Science were effective, this class of people would never have smallpox, for surely no bigotry could be more pronounced than that manifested by the anti-vaccinationists of the Philippines. It seems almost increditable that in spite of the absolute proof that effective vaccination practically makes smallpox impossible, there should still be dissenters.

If the so-called special visitations of Providence for the purpose of convincing people of their error could be logically considered in the category of sanitary measures, the awakening realization of the thoughtful sanitary sense of the people caused by a virulent epidemic is productive of enough good to warrant more than a passing thought on the things that happen for reasons beyond the scope of human knowledge.

In regions, remote and difficult of access, to which it is impracticable to deliver vaccine virus in a fresh state, the blame must rest with the conditions and not with the people. In these sections it is not likely that a complete disappearance of the disease will occur until improved methods of preserving vaccine virus are devised.

Between the months of November and March, considerable difficulty was encountered in supplying a potent vaccine. A committee composed of a representative of the Bureau of Science, one from the Medical School, and one from the Bureau of Health, was appointed in April for making a study of this question, but up to the close of the year the report had not been rendered. During March new strains of virus were imported from Japan and Saigon, and shortly after this the potency increased, and the number of takes among all classes, vaccinated and unvaccinated, is again above 50 per cent. (For complete statement as to numbers and results, see the statistical tables in the Appendix).

The Bureau of Health has nothing to retract with reference to the importance of vaccination, and will continue to urge it on the people as one of the most effectual prophylactic safeguards known to medical science.

The Iowa Health Bulletin, in a recent number, took up the subject of statistical proof of the protective influence of vaccination, and showed documentary evidence to support all that was claimed was not wanting. According to this evidence, London has records reaching as far back as 1629, and Genova as far back as 1850. In other countries, while the records are not so comprehensive, they are sufficient to give an idea of the

prevalence of smallpox before vaccination. In England, the rate was about 3,000 per million; in London it was over 4,000 per million. Now the rate is less than 20. In Prussia the rate before vaccination was slightly over 4,000, but on the adoption of vaccination it began to suddenly decline, and continued to do so until the vaccination law of 1874 was enforced, when the cases became fewer and fewer until now the the rate is less than 2 per million. Sweden had a death rate from smallpox for sixteen years prior to 1800 of 2,049 per million, while the rate from 1802 to 1811 under voluntary vaccination fell to 623. In 1816 compulsory vaccination was enforced and for the next ten years the rate was 133. By 1899, one hundred years after the vaccination began to be practiced, the death rate had fallen to 1 per million. Compulsory vaccination has been in force in France only since 1902, the rate of smallpox in the army being now 4 per 100,000. Vaccination was introduced in Austria in 1808, and was optional until 1900, when all school children were required to be vaccinated before entering. Vaccination and revaccination are compulsory for the army and navy. Denmark, since 1810, has required all children to be vaccinated before the seventh year. Revaccination is compulsory for the soldier and inmates of public institutions. Italy has had compulsory vaccination since 1888. All children are required to be vaccinated within the first six months, and, if this is unsuccessful, to be revaccinated before they are a year old. Before the law was in effect the death rate for smallpox was 610 per million; in 1902 it was 9.7 per million. In Belgium and Holland it is not compulsory, although all public officials and the army are required to be vaccinated. In Holland, while not obligatory, all children must go to school, and no child can attend without being vaccinated. The teachers also must be vaccinated. India prohibited smallpox innoculation in 1880, and made vaccination compulsory. Similar laws are in effect in Austria, New Zealand, and Cape Colony. Vaccination is optional in Russia, except in the army and public service. The great majority of the people do not avail themselves of vaccination, so epidemics are not uncommon. In Persia, Siam, and China little vaccination is done; therefore smallpox is endemic. Japan has enforced compulsory vaccination since 1886, whereby the greater portion of the population has been vaccinated and revaccinated, thus restricting the disease almost altogether to the floating population which actually escapes vaccination. No provisions are made in any of the cities for smallpox hospitals proper. When a case develops, it is usually allowed to remain at home, or taken to a general hospital for treatment. No quarantine measures of any kind are enforced. The same also may be said with regard to the German Empire, where no precautions are taken in the strict sense of the word against the spread of smallpox, the whole reliance being upon

vaccination. It has been stated by those who opposed vaccination that the reason why the German Empire was so free from smallpox was the superior facilities for the isolation and treatment of cases, and not vaccination. This was investigated by the local Government board to ascertain just what methods were employed by the Government and municipalities for the prevention of smallpox. Accordingly, an agent was sent to make this investigation. He encountered serious difficulties from the first. In Berlin, he was informed by the central health officer that so far as it was known, there were no smallpox cases in Germany. The principal cities of the four chief states of Prussia, Bavaria, Saxony, and Wurttemberg were visited. In ten cities of these states, containing a population of over 5,000,000, or one-tenth of the population of the German Empire, he did not find a single case. As a matter of history, he ascertained that there had been 70 cases in seven years, 1895 to 1901, inclusive; in Cologne, 1 case in ten years; in Frankfort, 9 cases in ten years; in Wiesbaden, 12 cases eleven years ago, but none since then; in Mainz, none during eleven years; in Munich, 7 cases in eight years; in Nuremburg, none for about eleven years; in Dresden, no deaths for the past ten years, in Leipsic, 8 cases in eight years; and in Stuttgart none in six years.

Vaccination in the United States is not compulsory. It is, however, made obligatory in many of the States and municipalities, but this ordinarily applies only to school children. Children are debarred from attending school unless they are vaccinated. While vaccination is generally practiced, there are many of the population, particularly in our southern States, among the negroes, who do not vaccinate, and for this reason, smallpox is not an uncommon occurrence among them.

The United States Government now requires that all alien immigrants shall be vaccinated before being allowed to land. This has been the means of reducing the danger from this source almost to a minimum.

The vaccination law of the Philippine Islands requires that every person living in the Archipelago who can not furnish satisfactory evidence, either by certificate of recent date from a president of a municipal board of health, public vaccinator, duly qualified physician, or such other person as the Director of Health may designate, to the effect that he is immune against smallpox, shall submit to vaccination as often as may be required by a municipal board of health, or by a district health officer, or by the Director of Health. This requirement at first sight appears to be perfectly satisfactory, but the trouble is the different and various interpretations placed on the word immune, and the ease with which certificates of immunity may be had. A person perhaps may be immune to-day and susceptible to-morrow, or vice versa; therefore, the only safe precaution is to be vaccinated as frequently as practicable, unless a recent successful vaccination has been performed.

MOSQUITO PESTS.

Owing to the fact that malaria is practically never contracted in Manila, not much money has been expended for exterminating mosquitoes. It was felt that money available for purposes of this kind would yield more concrete results when devoted to vaccination, the value of which is not in dispute. Residents of swampy, undrained sections of Manila continue to suffer annoyance from the *Culex fatigans* at night, and the *Stegomyia fasciata* in the daytime. However, it is proper to state that lowlands, when practicable, have been caused to be filled in or drained, and oil has been spread on stagnant pools and ponds which could not be subjected to more drastic measures. These methods are very effective and when properly applied are not cumbersome, but they are as yet too expensive to urge upon the small towns. Some method of more general application is needed. The merits of various culicides are now under investigation by the hygienic laboratory of the United States Public Health and Marine-Hospital Service. In a report which was published in the Public Health Reports, June 29, 1906, it was asserted that the fumes of pyrofume, a liquid derived from the fractional distillation of pine wood, are deadly to *Stegomyia calopus* and *Culex pungens*. Mosquitoes placed in cages in the floor of a room containing the fumes from 265 cubic centimeters of this liquid to each 1,000 cubic feet of air space were found dead after one hour.

The preliminary studies inaugurated by the Surgeon-General comprised a series of experiments on the culicidal properties of camphor-phenol, sulphur, and pyrofume.

In the experiments, great care was taken to protect artificially the mosquito in such a way as to simulate the conditions which ordinarily aid it in avoiding the effect of harmful gases. The experiments confirmed the reputation gained by sulphur in quarantine practice. Camphor-phenol appeared to be uncertain in its action and not possessed of powers of penetration and diffusibility, especially in low temperatures. As a result of the further experiments with pyrofume, it was determined that the fumes of this agent, when generated in the strength mentioned, are deadly, when the mosquitoes are exposed in a cage on the floor in the open; but when they are artificially protected, the amount of pyrofume must be increased to such an extent as to be injurious to the furniture.

Sulphur must be relied upon for the present as the most efficient insecticide, though it, too, is, in a measure, destructive. It is believed that a reliable and safe culicide will be eventually discovered. When this is done, the mosquito problem will have been completely solved in the Philippines and everywhere.

CIVIL-SERVICE MEDICAL EXAMINATIONS.

The civil-service medical examinations are divided between the Bureau of Quarantine Service and the Bureau of Health, the former examining applicants for maritime positions, the latter for land positions.

Examinations by the Bureau of Health are made by a medical inspector detailed from the regular force, who devotes one hour each day to this work.

From August 16, 1907, to the close of the fiscal year (period from July 1 to August 15, 1908, included in last annual report) there was a total of 516 persons examined by this Bureau, 453 of whom were passed, and 63, or more than 12 per cent, rejected. The respective occupations were represented as follows:

Character of examination.	Number examined.	Number passed.	Number rejected.	Percentage of rejections.
Junior surveyor	8	8	0	0
U. S. Coast and Geodetic Survey service	24	16	8	33⅓
Mechanics	15	13	2	13
First-class policemen, American	43	41	2	5
First-class firemen, American	38	33	5	13
First-class guards, American	34	30	4	12
Second and third grade examinations, Filipino	204	188	16	8
Third-class policemen, Filipino	92	77	15	16
Third-grade firemen, Filipino	17	10	7	41
Third-grade guards, Filipino	41	37	4	10
Total	516	453	63	12

The physical requirements are being more and more stringently enforced in order that the public service may not be embarrassed by that species of Government employee invalidism that is frequently found among public servants elsewhere.

Tuberculosis is one of the more frequent causes of rejection, and heart lesions and trachoma are also frequently found.

STREET PAVING.

When the Americans came to Manila they found a few of the principal streets of the city paved with large cobblestones over which the native vehicles rattled with careless abandon and deafening noise. In the Escolta and Calle Rosario, ambulances containing patients had to proceed at a walk even with emergency cases, in order that further injury might not be inflicted. These two streets being the principal business thoroughfares, were the first to receive the attention of the department of street construction and repair. It caused the stones, which were separated by cracks difficult to keep clean, to be replaced by wooden blocks, which gave a smooth, even surface, easily cleaned, so that these streets presented a neat appearance. These, after a few years' service, have, in many places, so decayed as to constitute a menace to the public health, as the holes and depressions become filled with dirt, and present an unsightly appearance as well as unsafe surface.

A smooth, durable street paving for Oriental cities which is at the same time sanitary, does not yet appear to have been found. Asphalt, owing to the continuous heat, becomes so soft that the depressions of the horses' hoofs and of the wheels of the vehicles make an uneven surface. It is believed, however, that further experiments should be made with

asphalt with the view of producing a more durable surface. At present it is proposed to use wooden blocks which have been impregnated with creosote under pressure.

NEW SEWER SYSTEM.

During the year, 24.4 miles of street sewers were laid, which, added to the 14 miles laid last year, makes a total of 38.4 miles. The total amount contracted for was 52 miles, so that only 13.6 miles yet remain to be laid.

The contracts for the pumps and pump houses have been let, and some of the work is actually under construction. Before the close of the fiscal year, which ends June 30, 1909, the new system will, no doubt, be in working order, and it is hoped that the majority of the noisome wagons and other primitive methods for the disposal of night soil will be a thing of the past. Upon the completion of this enormous sanitary undertaking, Manila will rank as the first city in the Orient to have a complete water carriage system for the disposal of sewage, and therefore compare favorably with the western world in this respect.

SWEEPING PUBLIC BUILDINGS.

On account of the danger of transmitting tuberculosis and other diseases by the means of dried sputum which accumulates on the floors of public buildings, the following letter has been addressed to the Executive Secretary:

MANILA, P. I., *March 25, 1908.*

The EXECUTIVE SECRETARY, *Manila.*

SIR: I have the honor to hand you herewith copies of a circular on the subject of cleaning of public buildings, with regard to the danger involved therein, and to request that you forward the same to the chiefs of the various Bureaus, in Manila, with a view to having the recommendations therein adopted.

Very respectfully,

VICTOR G. HEISER, *Director of Health.*

[Copy of circular.]

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, March 24, 1908.

It has been noted by this office that in the routine cleaning of the various Government office buildings in Manila a vast quantity of dust is raised and that such cleaning is frequently begun while many employees are still at their desks. By reason of the prevalence of tuberculosis in the Philippines, and of careless habits in spitting, such dust contains numbers of tubercle bacilli, which are the active agents in the production of tuberculosis and which gain access to the body through being inhaled. To begin sweeping while employees are still in the building forces such employees to inhale the germ-laden dust, which can not fail to be productive of disease.

It is therefore respectfully requested that the attention of the persons supervising the janitor service in the various public buildings, be invited to this matter, and that the practice of sprinkling the floors thoroughly with wet sawdust, before sweeping is begun, be adopted as a routine, and that the sweeping be begun only after the building is vacated.

VICTOR G. HEISER, *Director of Health.*

The method is so simple, inexpensive, and effective, as proved by the experience in the public buildings in which it was immediately put into operation, that it is recommended as a general measure.

In addition to the feature of safety, which alone is sufficient to commend it, the saving of labor and time spent in dusting more than compensates for the slight preliminary trouble.

INFANT MORTALITY.

Notwithstanding the fact that the subject of infant mortality has been given more attention by this Bureau and by the various philanthropical societies of Manila than any other question that has come up for consideration, the death rate among young children still continues very high.

Not only has this subject engaged the attention of health organizations and societies in the Philippine Islands, but in other parts of the world it has been a topic to which even presidents, kings, and emperors have given heed.

In all the large cities of Europe there exists societies for combating the causes which determine the excessively high death rate among the children of poor people. In the United States where the conditions are more favorable, the exigencies of the situation have not been sufficiently alarming to awaken public interest so generally as in countries less fortunate, yet there is nevertheless an enthusiastic movement for the better protection and care of infants. Nature evidently intends that every child born shall take part in the great drama of life, and live until all the purposes which called it into existence have been satisfied. So determined is she that the success of her plans shall not be impaired, that she has apparently established a law fixing a direct ratio between the birth rate and the infant mortality rate.

So far as the effects upon the census statistics is concerned, a high death rate among infants, unless brought about by epidemic diseases or other special causes, does not alarm the health officer, as he knows that it will be offset by a higher birth rate; but no one wants the children to live more than he, because he realizes that the bearing of healthy children is a blessing to womankind, and to the world at large, while the bearing of sickly children soon to die is a misfortune to humanity and that it incites unfavorable criticism on those entrusted with the supervision of the public health. The tiny graves in the cemetery are seen by many, but few hear of the efforts by self-sacrificing physicians and the faithful workers in the children's cause to prevent these graves.

In Manila where the statistics show that 4,184 children under one year of age died during the year, or as estimated, about 44 per cent of the total number of deaths, there has been as much done by the health authorities, by the Gota de Leche Society, by the churches, by the schools, by charitable people, and by physicians as in any city of equal size in the world.

In the Meisic public school, in the domestic science department, mothers are invited to bring in their children and then in the presence of the class the whole subject of infant feeding is demonstrated, from the value of a balanced diet to the care of the containers in which the milk is kept.

Flannel for the protection of infants has been distributed gratis from all the health stations. This Bureau has encouraged the formation of an obstetric department in the Philippine Medical School in order that midwifery might be properly taught.

In the Gota de Leche Society sick babies are being fed, and the hygiene of the body is being taught to Filipina mothers.

The district health officers from the outside have been called in for consultation with a view of organizing similar societies in the provinces. The churches have taken up the question; pamphlets have been written by Filipino physicians, translated into all the dialects and given extensive circulation at the expense of this Bureau, yet the visible results are few; but the foundation is being laid and the structure of a stronger generation being built.

Recent investigations by this Bureau have revealed the fact that a large proportion of the inhabitants is suffering from intestinal parasites, especially the hookworm, which produces a condition of anemia and weakness which is transmitted as an effect to the offspring of parents so afflicted. Active measures are to be taken to combat this condition, and it is believed that results will show favorably in the children to be born, making them more resistant to diseases and thus prolonging their lives.

AMBULANCE SERVICE.

The Bureau of Health and the police department of the city of Manila coöperate in conducting the city ambulance service, the latter handling the emergency cases, and the former looking after the transportation of cases of dangerous communicable diseases, and also of cases for the Civil Hospital. Arrangements have been made to extend and concentrate the facilities of the service. A central station is to be established near the Bridge of Spain, and the latest modern motor cars will be installed. These cars will not be characterized by distress or horror signals and the clanging of bells, but will pass quietly through the city on their missions of mercy, without attracting attention. One of the first official acts of the present Director of Health was to eliminate the pyrotechnic display in the ambulance service.

The improvements now being introduced will decrease expenses and increase the efficiency of this important branch of health work.

ANTHRAX.

Considerable public attention was drawn to the disease of anthrax during the month of October on account of cattle suffering from this disease being found among these imported from Hongkong. This immediately led to the question as to whether there was any danger of the disease spreading to human beings, and as to whether any human cases had heretofore occurred in the Islands. In view of the fact that the hides are not extensively handled here nor manufactured into leather, and that only the meat of anthrax cattle would be of particular danger, it was thought that human beings were not seriously menaced by anthrax from importations of cattle under existing conditions.

Several cases of human anthrax have been reported in the Philippines, but the points at which they are said to have occurred are so remote that no microscopical examination could be made, and in view of the common custom of local physicians to refer to ordinary carbuncle as anthrax, it would seem to indicate that in all probability the cases which were reported were not due to the bacillus of anthrax.

BERIBERI.

Beriberi has been a very serious matter in the Orient. Prior to 1884 an average of 33 per cent of the available strength of the Japanese navy was entirely disabled on account of this disease. During the war with China in 1894, about 45 per cent of the Japanese army was disabled for actual warfare by this malady. The reports of the same army in 1904 and 1905 show that one-half of the sickness and practically one-quarter of the entire sick and wounded consisted of those ill with beriberi, the total number of such cases being about 85,000.

The disease must be reckoned with in other directions than military operations, as it is also a factor of considerable influence in many public and private enterprises. It is met with in the mines of the Federated Malay States, and among the laborers of Java. It prevails also to a certain extent in the Philippine Islands, especially in camp life. In the public institutions, such as jails and prisons, it is much less known than formerly. The number of cases in the Philippines can not be approximated with accuracy, as it is by no means a necessarily fatal disease. Many patients are cured by change of residence and a change of diet, thus showing that the food question in relation to this disease is still a pertinent one. Whatever may be the real cause, it must be admitted that overcrowding, bad ventilation and improper food strongly predispose to the disease.

Dr. L. H. Fales, of Madison, Wisconsin, formerly a medical inspector in this Bureau, says that a study of an epidemic which occurred in

Bilibid Prison during his connection with that institution seemed to point to the lack of fresh vegetables rather than the small proportion of nitrogenous food, as the determining cause of the disease, for the following reasons:

1. Those who had access to the preparation of the vegetables and had the opportunity to take more than their share of them had no beriberi.

2. When the vegetables were almost entirely discontinued for a time as a part of the ration, the mortality from beriberi became higher.

3. Some months after the epidemic had been under control, prisoners from the prison, many of whom had had beriberi, were sent to work on the Benguet Road. So many of these were attacked by beriberi that it was found useless to try to use them, and they were returned to the prison. Information at the same time was received that they had been provided with scarcely any vegetables.

4. At the time of the epidemic of beriberi in the prison, many of the prisoners suffered with a peculiar form of sickness which was believed to be scurvy. The number of these cases exceeded 50. There was gradual loss of strength, the gums became red, spongy and swollen, there were extensive hemorrhages into the muscles, usually into the muscles of the leg. The hemorrhages would be followed by marked induration. The muscles became almost board-like in their consistency, and the patient could walk only with great difficulty. On post-mortem, hemorrhages were found in various parts of the body. One case of hermopericardium was noted. On the addition of lemons to the diet of these patients, or increasing the vegetables, they recovered. There is no doubt, therefore, that with the epidemic of beriberi we had an epidemic of scurvy, although in much smaller proportion.

The number of deaths from beriberi in the city of Manila for the period covered by this report is 514 as against 423 for the preceding year.

CANCER.

The subject of the prevalence of cancer in the Philippine Islands has been carefully studied by Dr. F. W. Dudley, formerly of this Bureau, but now associate professor of surgery in the Philippine Medical School, and attending surgeon to the St. Paul's Hospital, whose conclusions as published in a recent number of the Journal of the American Medical Association are that—

1. Cancer is not confined to temperate climates;

2. It is believed that cancer exists in the Philippines to a greater extent than in the United States;

3. The measures now being taken in other more enlightened countries to warn the people of the necessity of early diagnosis and to emphasize the importance of early surgical treatment should be adopted here;

4. The disease is of sufficient importance in the Philippine Islands as to warrant an effort being made to obtain better statistics in the future.

The records of the surgical clinic at St. Paul's Hospital show that since the establishment of the hospital April 8, 1905, to June 30, 1908, a period of a little more than three years, 55 cases of carcinoma were

treated. These cases came under the following classification: Tongue, 1; face, 1; breast, 7; cheek, 8; cervix uteri, 9; eye, 4; inferior maxillary, 3; buccal cavity, 5; larynx, 1; pancreas, 4; penis, 1; scrotum, 1; rectum, 2; stomach, 4; leg, 1; lip, 1; foot, 2. There were 25 admissions for sarcoma, classified as follows: Pancreas, 1; ear, 1; mastoid, 1; parotid gland, 2; metatarsal bone, foot, 2; neck, 6; femur, 1; tibia, 1; cranium, 3; orbit, 1; testicle, 5; arm, 1.

The portent of these statistics is modified by several factors that deserve to be taken into consideration, among which is the reputation of the surgeon as may be inferred from the fact that, of the patients presenting themselves, about two-thirds were too far advanced for any treatment, thus showing that the majority of the patients were finally led to apply for relief through the reputation of the clinic. These people probably came from all parts of the Islands, therefore it would be inaccurate to estimate the real prevalence of cancer in Manila upon the basis of the number of cases recorded in the hospital reports of the city, or to judge the situation throughout the entire Archipelago from such data. The provincial statistics are of but little value and they embrace under the same classification all forms of malignant growths, including, frequently, the lesions of lupus.

The total number of deaths from cancer in Manila, a city of about 225,000 inhabitants, for the fiscal year, according to the Bureau of Health statistics, was 73, classified as follows: Buccal cavity, 15; stomach and liver, 10; peritoneum, intestines, and rectum 3; female genital organs, 13; breast, 5; skin, 6; not specified, 21.

Cancer patients from every part of the Islands are sent or come to Manila in the last stages of the disease, and are either admitted to the hospitals to die, or are cared for by their friends and relatives. The Filipino idea of a hospital, handed down from Spanish times, is that such an institution is a place for the administration of extreme unction, and for effecting the change called death; hence his journey thereto is a final pilgrimage before passing over the great divide.

There is no well-defined line between permanent and transient residence in the Philippines, especially where the question of special privileges is involved. The city of Manila has a contract with both the St. Paul's Hospital and the San Juan de Dios Hospital for the care of the local indigent sick, but probably every province in the Islands is a beneficiary of the city's generosity. At the present time there is no remedy for this, nor do the dictates of humanity or mercy call for one. But due credit, however, should be given these facts in making deductions with regard to the degree of prevalence of any disease throughout the Philippine Islands, on a basis of the hospital reports and official mortality statistics of the city of Manila.

CHOLERA.

The death rate in Manila has to some extent been augmented by Asiatic cholera, which has probably been present since the early part of the first quarter, at which time a few cases of gastro-intestinal disorders closely resembling cholera were reported, though the suspicions were not confirmed by laboratory examination. It was not until the last of July that the presence of cholera in Manila was actually confirmed by laboratory diagnosis. Since that time the disease has been more or less prevalent and during the last week of the quarter above referred to, the number of cases averaged about three daily. The disease was not confined to any particular locality as the cases were found widely separated, with no apparent relation between them. If there had been a central focus, the matter of suppression would have been simplified. Painstaking efforts were made to trace every case and connect it with some other case, and while such efforts were not entirely successful, they led to the conclusion that the most probable source of the disease was the unhealthy and filthy practice by the market gardeners of fertilizing their products with human excreta. The secret service was asked to investigate the matter and it was not long before convictions were secured, thus substantiating the conclusions which had been reached by the bureau.

During the early part of July cholera suddenly made its appearance in Carigara, Leyte, and prevailed for several weeks, the number of cases averaging about 10 per day. Owing to the indifference of the local officials, the instituting of active measures against the epidemic was considerably delayed, and it was only through the indefatigable efforts of the district health officer for Leyte, with the support of the governor of Leyte, that the progress of the disease was checked. This Bureau immediately detailed a sanitary inspector of experience to assist the district health officer, and by their efforts, the spread of the disease was limited, only two other municipalities having been infected; viz., Tunga and Barugo, which are practically suburbs of Carigara. During the latter part of August the disease appeared in Mandaon, Masbate, the infection, in all probability, having been carried there by the sailboat *Carlita* coming from Carigara. Before the *Carlita* could be subjected to quarantine regulations she had done other mischief. Cases were reported in Romblon and other near-by islands. Fortunately, the matter was taken in hand by the local officials and a spread of the disease prevented. The district health officer of Sorsogon was sent to take charge of the outbreak in Masbate and was able to limit the same to the municipalities of Mandaon and Milagros. At the close of the quarter only about two cases were occurring daily, and prospects were good for its complete extermination. Subsequent events proved the correctness of this view.

During October, November, and December the disease appeared in the Provinces of Bataan, Bulacan, Pampanga, and Rizal, there being 3, 85,

234, and 7 cases, respectively, reported from these provinces. Active measures were taken by the district health officers in charge, and during January, a decline in the number of cases was noticeable. By the first of March the disease had almost completely disappeared.

In Manila, however, the conditions were not so favorable. During the closing days of the old year, and during the first week of January, the outlook in the city assumed a rather serious aspect. Cholera increased from day to day and on the 6th day of January, 17 cases occurred. The reappearance of the disease in the city was ascribed to the reinfection by visitors who came here to spend Christmas; many of these persons, no doubt, came from infected places and were in the incubation period of the disease when they arrived here. It was also probable that some of the stools containing virulent cholera spirilli found their way into the possession of market gardeners who used them for fertilizing purposes. With regard to this latter practice, it is perhaps not generally understood that human excreta is used by the gardeners in the Philippines not so much for fertilizing purposes as for its destructive effect upon the insect enemies of the garden products of the tropics. It is used by sprinkling a solution upon the plants. From this it will be seen that a head of cabbage, for instance, may be infected from its very center to the outside as it gradually forms when daily sprinkled by cholera-infected material.

On January 3 the disease made its appearance in the Mariquina Valley, and thus the city of Manila was again most seriously threatened with an epidemic. During the first week of the outbreak, 45 cases were reported with 43 deaths. The Governor-General, upon the request of the Bureau of Health, made application to the commanding general of the Philippines Division for the detail of sufficient troops to patrol properly the Mariquina River and guard it against infection from cholera. Fortunately, the disease made its appearance first in the town of Mariquina itself, where a pail system is maintained by the city of Manila, and where there is probably reduced likelihood of fecal discharges finding their way into the water. Energetic measures were taken to stamp out the scourge in that locality and the efforts were rewarded with considerable success. During the week which followed only a few additional cases occurred and within ten days after the first outbreak no further cases were noted.

The sale of raw vegetables was again prohibited in Manila and an outgoing quarantine of forty-eight hours was placed upon all interisland vessels. This latter was completely successful in that it prevented the spread of the disease to other islands. It was not felt at any time that the disease had gotten beyond control or that there was any danger to persons who took the simplest precautions, but in order that visitors from abroad might not incur the slightest risk, it was decided to postpone the Philippines Carnival from February 3 to 9, inclusive, to February 27 to March 3, inclusive.

During March cholera made its appearance in Capiz Province and gradually spread until the towns of Capiz, Dao, Ivisan, Mambusao, Panay, Pilar, Pontevedra, and others became infected, a total of 673 cases being reported up to the close of the year. The residents of the towns of Panay and Capiz have been the principal sufferers. The local district health officer was given every facility to suppress the disease, and some thirty vaccinators who were on duty for the Insular Bureau of Health were pressed into service as cholera inspectors; but the disease continued to increase. The district health officer from Iloilo was then sent to Capiz Province for the purpose of aiding in the work. The provincial board authorized the employment of a number of sanitary inspectors and the Philippine Assembly made an appropriation of ₱1,500 to be used in exterminating the disease. At the close of the year the epidemic is apparently under control.

It was also during the month of March that cholera developed in Dagupan, Pangasinan Province, and with a view of interfering as little as possible with local autonomy the resident officials were urged to take the necessary steps promptly to suppress it. For this purpose Sanitary Inspector Brantigan was detailed to aid them, but the local authorities were so indifferent that the disease spread rapidly, and during the month of June it became necessary for the Bureau of Health to take direct charge of the situation. Seven medical officers of the Bureau were detailed for the work, but the disease had already become so thoroughly established that considerable time will no doubt be required to eradicate it.

The cholera soon spread along the main routes of travel from Dagupan, as far north as Baguio on the Benguet Road, to Aringay on the coast road, and was also carried to Santa Maria, Ilocos Sur, by *parao*, and to the west to Agno and Bolinao in Pangasinan. Along the railroad it spread as far south as Tarlac, and as far east as Cuyapo, Nueva Ecija. It has been repeatedly brought to Manila, and cases have also been found in Pampanga, Bulacan, and Bataan Provinces, but so far there has been no spread from these cases. The disease also appeared at San Nicolas and Tayug, through which passes one of the principal roads into Nueva Vizcaya. After several weeks of strenuous work some of the apathy of the local officials has been overcome, and where this has been brought about, the situation has improved immediately. In Dagupan the number of cases was quickly reduced from 17 or more per day to 3 or 4. In Lingayen the disease completely disappeared. In towns like Manaoag and Mangaldan, where there was great indifference to sanitary measures, there were several hundred cases. The aid extended by the priests of the Catholic Church and the schools in diffusing the information contained in the cholera circulars has been of great assistance, and is doubtless responsible for the saving of many lives.

The plague of flies which existed in Pangasinan Province was, no

doubt, largely responsible for the great number of cases, as were also the fiestas and pilgrimages taking place in these provinces. Another cause of the spread of the disease was the fact that on account of the difficulty of communication, many remote municipalities were infected long before the knowledge reached the district health officer, so that, in such instances, very little effort was made to limit the spread of the disease until it was too late.

In spite of the fact that the conditions in Pangasinan Province are not encouraging at the close of this report, yet they are much better than in 1902. The strenuous measures which were adopted at that time did much to arouse the opposition of the people, and the passive resistance which was then engendered is still felt, and, no doubt, is largely responsible for the opposition which is made to sanitary measures. This time, as soon as the people learned that their homes were not to be burned and other costly measures were not to be taken, at least some coöperation has been received. This latter course has therefore been fully justified by the lesser number of cases as compared with 1902.

At first sight it would appear as if the diffusion among the masses of the plain, simple truth, that cholera can only be contracted by the introduction into the mouth of contaminated food or drink, and that almost absolute safety against infection can be insured by the simple precaution of using sterilized water and cooked food, would result in its early disappearance; but when it is remembered that the climate is favorable for the development of the cholera organism throughout the four seasons of the year—in other words, that there is no winter season which would at least stop the disease for a time—that a large proportion of the people are ignorant and inaccessible, that much superstition exists, that one of the most popular beliefs is in the supposed injurious character of boiled water, that the cost of fuel is comparatively high, making sterile water and cooked food difficult for the masses to obtain, that the majority of the people cling tenaciously to the mode of living which has been customary with them for hundreds of years, that food is conveyed to the mouth with the fingers from a receptacle used by all the household, that over 60 per cent of the population are afflicted with intestinal parasites, that, with the possible exception of the supply for a few hundred thousand out of a total of seven millions, the drinking water is obtained from shallow surface wells, that physically the people are weak and unresistant, and that funds and skilled physicians needed to combat this condition are very limited, it will not be so difficult to understand the continued presence of cholera in the Philippines. The funds for fighting cholera now are also very meager as compared with 1902.

It is believed that sanitarians of experience will all agree that the best hope of completely eradicating the disease from the Islands lies in the

education of the masses with regard to the manner in which the infection spreads and the introduction of better water supplies. Both of these conditions are being met as rapidly as possible; the press, the schools, the churches, and the Government officials are all aiding in this work, and with the appropriation of ₱150,000 made by the Legislature, artesian wells are being bored as rapidly as the facilities of the Government will permit. From the foregoing it will be apparent that the policy of the Bureau of Health is to give consideration first to those sanitary reforms which will make cholera outbreaks impossible in the future, and only spend such sums upon combating the disease as the dictates of humanity demand.

AMŒBIC DYSENTERY.

Amœbic dysentery has been the most formidable opponent to American occupation of the Philippine Islands that has been encountered, yet it belongs to the class of preventable diseases that could almost always be avoided by adherence to simple hygienic rules. In order to insure absolute safety, elaborate precautions would have to be observed; but it may be stated from a practical standpoint that this disease is almost unknown among those who wash the hands immediately before eating, drink water only that has been sterilized by distilling or boiling and kept protected from contamination, and who do not eat in a raw state low-growing garden vegetables like tomatoes, celery, cabbage, onions, and lettuce.

The disease is not nearly so prevalent as in years gone by, but it still remains as one of the greatest causes of invalidism of Government employees, and also figures conspicuously in the Army sick reports.

The number of cases treated in the Civil Hospital for the fiscal year covered by this report is 81 as compared with 85 for last year. Of the total number of deaths in Manila, 32, or 0.34 per cent, were caused by amœbic dysentery. The native population is not exempt from this disease as has been shown by the autopsies made at the Malecon Morgue.

Rest is indicated in all systems of treatment for dysentery, and a part of the success of the ipecac method is, no doubt, due in part to the enforced rest which it enjoins. In mild cases, however, it is frequently inexpedient to require the patients to be confined to bed. The method of treatment that has generally been employed by American physicians since their advent into the Philippines has been the administration of drugs of germicidal action in dilute solution of high enemata. This treatment, while in many cases very efficient, is open to certain objections, the principal of which is the liability of injury and the difficulty of carrying out the treatment correctly unless it is administered by a physician or a trained nurse. The time required is so long and the inconvenience so great that in many cases it is desirable to alternate it with, or substitute therefor, the simaruba and sodium sulphate treatment, which is extremely

simple and very effective. It consists of the administration of 100 cubic centimeters of a 50 per cent solution of sodium sulphate every second or third day and three-hour tablespoonful doses of a mixture composed of—

Simaruba pulvis	grams	3
Benzo napthol	do	3
Subnitrate of bismuth	do	8
Sirup of krameria	cubic centimeters	30
"Potion gomosa" (excipient)	do	200

The question of diet in this treatment should be the subject of attention, and when necessary, patients must be placed on liquid or semisolid food as may be indicated.

If there is collapse or acute diarrhœa, warm saline enemata should be administered every two hours until the acute symptons subside, while in the meantime the patient's bodily heat and strength should be conserved.

This treatment has the advantage of being simple of administration, comparatively free from danger, and so convenient that, except in severe cases, patients may pursue their ordinary vocations with safety.

GANGOSA.

This disease, which was recorded in the last annual report, has not figured in the mortality statistics of the present year. One case was presented to the Manila Medical Society at the meeting held on October 14. After being examined by a number of those present, the consensus of opinion was that the correct diagnosis was probably an atypical form of syphilis. The case presented no particular symptoms with the exception of a perforation of the hard palate with some involvement of the nasal septum.

In view of the fact that the various leper expeditions which were sent out to the provinces have had gangosa in mind, and that no cases resembling this disease came under observation, it would seem to indicate that the disease is of rare occurrence in the Philippine Islands.

INSANITY.

Certain comparisons were made in the last annual report with reference to the prevalence of insanity in the Philippine Islands and other countries, and it was shown that in the United States there was one insane or feeble-minded person to every 304 of the population, while in the Philippine Islands only one person in every 1,667 was insane or defective. The percentage of recoveries under treatment was about the same as that of Great Britain.

The Bureau of Health census of the insane for the Philippine Islands shows that there were 2,029 males and 1,610 females, or a total of 3,639. Of the 1,972 male adults 1,375 are single, and of the 1,573 female adults, 967 are single. Four hundred and twenty male adults

and 330 female adults are married, while 115 males are widowers and 209 females widows; 62 males and 67 females are not classified.

The new insanity department of the San Lazaro Hospitals mentioned in the last report as being under construction has been completed and is now in full operation. The building is constructed of reënforced concrete, which experience has shown to be as nearly earthquake-proof as it is possible for structures of strong material to be.

The insanity law recommended by the Bureau of Health has not yet been enacted. The present legal machinery is without definite status, and in the case of contests, the Government would be helpless except in cases where crimes have been actually committed.

The distribution of insane by provinces is noted in the statistical part of the report. Authority has been granted each province to commit a certain number of insane based upon the population of the province, to the San Lazaro Hospital, by paying the cost of transportation from their homes to the Hospital. The Bureau of Health has also been caring for the insane among the Philippine Scouts, (native troops of the Islands) the actual expense of the same being borne by the military Government.

INTESTINAL PARASITES—HOOKWORM DISEASE.

Practical work and experience change many apparently well-grounded theories. In casting about for the influences operative in the still high mortality in the Philippine Islands, two factors seem to stand preëminently to the front. One, the infant mortality, and the other, the extensive prevalence of intestinal parasites. After some consideration, infant mortality was dismissed from special study as this is a subject which is much the same all over the world, and has been given great study and attention by persons working in communities where ample funds and trained help were available, without having made great progress; so that it was decided to take up the question of intestinal parasites first. A fortunate incident occurred at this time which aided materially in the study of the problem. The death rate in Bilibid Prison under the administrative supervision of laymen had increased from year to year until the appalling figures of 238 per thousand were reached. The management of the sanitation of the prison was then transferred to the Bureau of Health. Ordinary sanitary measures, such as relieving overcrowding, improving the methods for the disposal of night soil, regulating the diet along scientific lines, improving the drainage, and other similar measures succeeded in bringing the mortality down to about 70 per thousand in a period of six months; but persistent efforts carried on for nearly six months more failed to lower it further. Patients were dying from illnesses which should not have killed them. At this juncture, a systematic examination of the stools of prisoners was

begun. The same was undertaken by examining all the prisoners in a brigade, usually about 300 in number. In the first batch examined most astonishing revelations resulted. Eighty-four per cent of the prisoners were found to be afflicted with at least one intestinal parasite, 50 per cent had two or more, and 20 per cent had three or more. Fifty-two per cent of the total number examined had hookworms, which, in itself, would explain the lowered resistance to disease and the tendency among the prisoners to succumb to trifling complaints.

Specific treatment for eliminating the intestinal parasites was begun in a selected brigade, and after this was completed successfully, the work was actively continued until all the prisoners, numbering over 3,500, were examined, and the intestinal parasites removed. The percentage of parasites in the remaining group was about the same as that given for the first brigade. After the treatment was well under way, the death rate in the prison commenced to fall gradually, and several months after the intestinal parasites from the last prisoner under observation had been removed, the death rate dropped to 13 per thousand, and has remained low up to the present time, a period of over a year. These figures show in a most convincing manner the effct of the intestinal parasites upon the general health. . They so reduce the resistance of the individual that he becomes a ready victim to almost any intercurrent disease which he may contract.

Records of over a thousand stool examinations made of persons at large in the Philippine Islands show that practically the same condition of affairs exists among the general population, so that as soon as the intestinal parasites of the inhabitants can be removed, and the environment made so that they will not readily become reinfected, it may be confidently predicted that the death rate in the Philippine Islands will be lowered to figures which will correspond very closely to those found in temperate climates.

It will thus be seen that the magnificent work which has been done in connection with intestinal parasites by Stiles, Loos, and others, has pointed the way toward a sanitary reform, which will, no doubt, stand in medical history as one of its greatest triumphs.

The study of the question of intestinal parasites has now reached a stage where definite results can be predicted with reasonable certainty. In order to put this matter upon a still more practical basis, arrangements have been completed to send a small commission to one of the nearby towns for the purpose of treating the residents there for this condition. When this has been done, it is hoped that the beneficial results will be so apparent that towns throughout the Islands will take up this question, which has such an important bearing on reducing the general mortality.

HOOKWORM DISEASE.

If there had been any question as to the influence of hookworm disease on the morbidity and mortality of the Philippine Islands, the revelations and results developed by the investigations carried on in Bilibid Prison under the auspices of this bureau would have decided the matter in favor of the necessity for the inauguration of an active campaign for the defense of people against this insiduous, relentless foe to human life, to the happiness of mankind, and to the prosperity of the masses in tropical countries. The wide prevalence of the disease and the helplessness and hopelessness with which it has been regarded in the past are better explanations of many features of tropical sociologic and anthropologic conditions than many others that have been advanced. The presence of a swarm of hookworms in the intestinal tract of a man exerts more direct and immediate influence on his physical condition than the inclination of the sun's rays or the amount of pigment in his skin.

Some time ago, the legislature of Porto Rico passed an act to create a permanent commission for the suppression of uncinariasis or tropical anemia in that country, and made an appropriation of $50,000, United States currency, to carry on the work. The commission was charged by the law to use all means in its power to prevent, combat, and suppress the disease known as tropical anemia or uncinariasis in the territory of its jurisdition, and for that purpose the establishment of a central station, substation, and dispensaries was provided for in the appropriation act. The results were gratifying to the medical men who were intrusted with the work, and saved the territory in human lives, as well as in industrial wealth, many times the sum appropriated.

This Bureau has formulated plans for a more extensive campaign than heretofore has been inaugurated by any country, against uncinariasis, and would had some of them in operation but for the appearance of cholera in the provinces. It is purposed to undertake this work with the regular force, and without any special appropriation for expenses. The problem will be attacked along both educational and practical lines; that is, every effort will be made to carry relief to the sufferers and at the same time to teach the principles of prophylaxis, so that the cured may remain well and the noninfected may know how to avoid the disease.

As much publicity as possible with the means at the disposal of the Bureau will be a feature of the campaign. Experience has taught that in the Philippines, and probably everywhere else, the best way to popularize a movement so foreign to the customs of the people as this innovation, is to prosecute it as if it were the only thing in the universe left undone. The success of the crusade will depend on a right start, but the people themselves, when they understand, may be relied upon to take care of the future in a matter of so far reaching importance

to their own lives and happiness, and so inexpensive and simple in adaptation as the remedy against the cause of tropical uncinariasis. There is not a resident in the Islands who does not recognize the significance of the clinical aspect of uncinariasis, and when the actual cause of the disease is brought home to him by pictures, microscopic demonstrations, the display of exhibits, personal explanations, and convincing object lessons, he, too, will grasp the truths of prophylaxis and avail himself of the remedial measures presented.

The plan contemplates a sanitary awakening of the public along directions not heretofore pursued. Every available method of commanding the interest and coöperation of the people will be employed. Attractive exhibits of photographs illustrative of the disease and its causative factor will be a feature of the campaign, and the medical men in charge of the work will be able to demonstrate by microscope the various forms of ova of intestinal parasites, and to show the mature organisms. While the battle ground is to be the entire Philippine Islands, the first field of action will be those sections known to be the most profoundly infected.

Information blanks in the nature of card forms adapted from those used by the Porto Rican Commission will be employed for collecting information and assembling final statistics. The forms will include a warning card, a clinical record card, an inspection card, and an announcement card for the purpose of giving notice of the arrival of the inspector; a card of instruction, especially for the employers of labor, showing how the hookworm may be suppressed; and a treatment card.

The instruction card used in Porto Rico, under the heading of "Instruction to farm owners concerning the suppression of anemia in Porto Rico," bore the following information:

Anemia is the disease from which the majority of our country folks suffer.

It alone causes more deaths than all other diseases.

Those peons and others that you are sheltering and that work for you are not strong because they are anemic.

Should they become cured they would be better workmen.

Send them to us that we may cure and teach them to prevent the disease.

To prevent anemia remember that it comes from ground-itch (*mazamorra*); that ground itch (*mazamorra*) is only contracted where there has been earth soiling; that to avoid ground-itch it is well to use hose. So advise your people.

But it is still more important that each house have its privy and that no one defecate on the surface of the ground.

Prohibit your peons from defecating while at work on the plantation unless they cover each stool with a little earth that may be scraped up with a cutlass (*machete*).

Thus the excrement is covered and the worms killed.

While it was not expected that every farm owner would comply with all these instructions or that it were possible to produce ideal conditions, the results were more satisfactory than had been anticipated.

If the hookworm caused directly more deaths in Porto Rico than any other disease, what an alarming array of charges could be brought against this pest if it were called upon to plead to an indictment from the whole world for all the deaths that it is indirectly responsible for through its devitalizing influence on its victims and its profound impress on their offspring. Children born of anemic parents can not possibly possess that degree of vital resistance necessary to tide them over the critical period of early infancy.

The life history of the hookworm when told in popular narrative style is more interesting than a novel, and could be made the subject of lectures, popular talks, and personal conversations without trespassing on the domain of delicacy. Sir Patrick Manson, the great English authority on tropical diseases, has so popularized the whole field of tropical medicine in the lecture courses which he has given in nearly every part of the world that it has been possible to adapt from his beautiful discourses a popular circular on the hookworm disease that can not fail to interest, instruct, and benefit the Filipino people. This Bureau has now in course of preparation a simple language text which is to be used as the basis of the didactic instructions and general information circulars under contemplation. This text, in treating of the hookworm, takes up the question in its relation to anemia. The rough outline of the circular in speaking of uncinariasis is to the effect that "hookworm disease is not a new disease that has been discovered, but it is an old one formerly called *anemia grave, anemia perniciosa,* and *falta de la sangre.*" This often grave condition is dependent on the presence in the intestinal tract of a hookworm. The worm is very insignificant in size, but in consequence of the local irritation and vitiating action on the blood due to its food necessities, and to a poisonous substance called toxin which it is believed to secrete, this innocent-appearing parasite brings about a condition of anemia in its host; that is, in the person in whom the worm exists. This anemia always produces a marked weakness which may lead to serious disease or death, and which, when affecting one or both parents, nearly always results in weakly, sickly children, who often die in early infancy or fall victims to this or some other disease during childhood. This is one of the reasons why so many Filipino babies and children die. The bodies that they have inherited from diseased, anemic parents, can not withstand the germs of tuberculosis, malarial fever, amœbic dysentery, and other diseases of this class, or even the unfavorable changes in the weather, so they die before their time.

In view of the fact that anemia is a very common disease in the Philippines and that it is robbing the parents of their children and the children of their parents, and producing sickness and distress of so serious a nature, it is of the greatest importance that the people should learn

something about the cause for all this, which is nothing more than a little worm that finds its way into the intestinal tract and attaches itself by two little hooks to the mucous or inner coat of the intestines and thus gets its food at the expense of the host. These worms do not occur singly but in great numbers; the more numerous they are, the more grave will be the disease caused by them. They live in the small intestine and lay their eggs into the contents of the bowels, whence they escape with the feces. If the eggs, after they have thus passed out, are kept warm in a suitable medium such as damp earth, they hatch out and a very small and at first very active little worm or embryo, so tiny that it can be seen only by the aid of a magnifying glass, is set free. These little creatures rapidly acquire organs of digestion, and after casting their skins several times, and undergoing other changes to fit them for their subsequent life, they are ready to reënter another human being; the person who is so unfortunate as to be the one into whom the worms enter being called their host, because he supplies them with food and with a home in his intestinal tract.

It is known now precisely how reëntry is often, if not always, accomplished. It was formerly believed that the young parasite entered the human alimentary canal by being swallowed in dirty water or being transferred on earth-soiled hands or dishes to the mouth and thence to the stomach, but later investigations have shown that the most common method of infection is by a different route. The little worm penetrates the skin, generally that of the feet or legs, of persons passing through or working barefooted in or otherwise being brought into contract with earth in which the eggs of the hookworm have been deposited. The young worm enters the skin through some follicle, thence passes into a blood vessel which carries it to the heart, from which organ it passes by the pulmonary vein to the lungs, where it leaves the blood vessels and undergoes further changes for the purpose of enabling it to withstand the action of the gastric or stomach juice. The worm is on its way to the small intestine, its permanent abiding place, which it must reach before it can reproduce its kind. To get from the lungs to its final resting-place, it enters an air vesicle in the lung and from the air vesicle it finds its way into one of the little tubes that carry air into the lungs and so on, by the way of the windpipe, into which the smaller tube leads, thence upward until it can get into the lower part of the throat, find its way into the tube leading to the stomach, through which organ it passes and enters the small intestine, where it makes itself at home and begins in its peculiar way to raise a family by producing eggs destined to pass out of the bowel, hatch in damp warm earth, and begin the round again.

The most critical period in the life history of the little creature is the time when it is outside of the human body; millions of eggs are

destroyed by unfavorable conditions and countless numbers of young worms lose their lives because they can not find an opportunity to continue their existence in human hosts. Should the temperature of the medium in which the young parasite is lying fall below a certain point, the necessary developmental changes are suspended or never commenced.

Filipinos are quite familiar with a form of itch called *mazamorra* or ground-itch This is an inflammation of the skin generally attacking the feet and legs, but at times other surfaces as well. The inflamed parts itch very severely and often become infected through scratching. Dr. Loos, a man who has studied this disease a great deal, has shown that the condition called ground-itch, or *mazamorra,* is produced by the entrance of the little hookworms through the skin; in other words, that it is but a manifestation of the presence of the hookworm disease. Sir Patrick Manson, an English physician who is a professor of tropical medicine in the great London University, in one of the several books he has written, tells a story of a planter living in the West Indies who told him how at one time he was seriously inconvenienced by *mazamorra* among his farm hands. He noticed that this trouble was followed by profound anemia and also that the skin disease and anemia occurred principally among the employees who worked in or passed through certain fields of his plantation. The weather in the West Indies is warm, as it is in the Philippines, and the working people go without shoes and stockings, from which fact the planter argued that in these particular fields there were certain germs that, coming in contact with the legs and feet of the laborers, produced first the skin disease, and later on, after they had entered another part of the body, the anemia; so this observing man, believing that the disease was a germ or bacterium, sought to find some remedy to circumvent or kill it. In thinking on this subject he remembered a certain practice that he had seen in Germany where he had frequently gone for his health. In that particular part of the German Empire to which he was accustomed to go, geese are raised in large numbers. The goose market is a long way from the goose farms, so that the geese when ready for sale have to be driven for many miles over the hard roads. To enable them to stand the journey, the farmers provided them with close-fitting antiseptic socks or sandals, made by filling a shallow trough with tar, and through the trough the geese were driven onto a piece of ground covered with a layer of fine sand. The tar stuck to their feet and the sand to the tar, and thus they were provided for their long journey. The planter, acting on the suggestion offered by this practice, had his laborers dip their feet in a bucket of tar and then walk across a layer of sand or sawdust. The result was that no more ground-itch was contracted because the skin was protected by the coating from the little worms. Other incidents could be related to show how easy it is to prevent the disease, but the matter is too plain to require further explanation.

The first step in determining the presence of the disease is to suspect it. The next is to consult the local board of health or the local president who will be able to give advice as to when the physician engaged in this special work may be seen.

The local physicians have for free distribution little cards with full directions that must be followed before, during, and after treatment. The cases will be examined by the physician, and he, at the same time, will determine the diagnosis and administer the treatment.

The opportunity is now presented for the people of the Philippine Islands to be cured of a very dangerous disease—one that prepares the way for many others. The coöperation and help of all is earnestly desired.

One of the main reasons why there is advocated elsewhere in this report the introduction of silkworm raising and the fertilization of the mulberry trees by human feces that have been exposed to certain destructive processes, is that only by making such feces of commercial value will there be enough interest taken in the question of the deposit of night soil as to insure official regulation.

The combating of the hookworm disease is certainly a large undertaking and to those who are not familiar with what, in the light of past experience, has been brought within the range of possibilities, the whole proposition may appear as a chimerical dream. But it can be done, and if nothing occurs to prevent the execution of the plans, it will be done.

The Philippine Islands Medical Association at its last annual meeting showed its interest in the great problem by passing the following resolutions:

Whereas it appears that the treatment of the prisoners for intestinal worms has been an important factor in reducing the death rate at Bilibid Prison; and

Whereas it would appear further that over three-fourths of the population of the Philippines is at the present time infected with animal parasites; and

Whereas infection with these parasites can be controlled almost absolutely by properly disposing of the human excreta which contains ova of the parasites; and

Whereas the proper disposal of human excreta will at the same time remove one of the most dangerous channels for the dissemination of other infectious diseases: Therefore, be it

Resolved, That the Philippine Islands Medical Association shall petition the Government of the Philippine Islands, through the Honorable Dean C. Worcester, Secretary of the Interior, that a commission of five properly qualified members be appointed to decide upon the most practicable and effectual means for the proper disposal of human excreta that can be established in these Islands.

Be it further resolved, That the Government of the Philippine Islands be petitioned to make such appropriation and provide such amounts for the establishment of a working system for the disposal of human excreta as from the report of this commission may appear practical and expedient.

It is not believed that the people, when they understand the matter, which they can not fail to do when the Bureau of Health has carried

out its plans of sanitary mission appeals, will show any hostility to the movement, as the work will be carried on by the local officers so far as practicable.

Special effort will be made to avoid technical expressions in the circular as it is intended to use it as a basis of popular and public enlightenment. The part relating to treatment has not been given, as the details of this part of the plan have not as yet been worked out.

LEPROSY.

Work on the project which had for its object the segregation of every leper in the Philippine Islands at Culion was actually commenced during the month of May, 1906. Up to that time the relief extended to lepers was more in the nature of aiding the individual leper; the larger project of exterminating this disease from the Archipelago was never seriously undertaken. In view of the conflicting opinions as to whether segregation could accomplish this, and the question of financing so large a project, considerable delay was caused in starting this undertaking.

The experience of the past two years, while not yet sufficient to form definite conclusions, is strongly indicative of the fact that not only will the disease be exterminated, but that the project will prove to have been most advantageous from a financial point of view. The foregoing is from the purely utilitarian standpoint; but viewing it from the larger, and, of course, first to be considered, humanitarian standpoint, the care of all of these unfortunates will redound to the credit of America as an act that will receive favorable comment throughout the civilized world.

At the time the work was commenced, it is estimated that there were at least 3,500 lepers in the Islands; at the end of the first year there were 2,826; at the end of the present fiscal year the number was 2,486. The reduction in the number during the first year resulted largely from the fact that persons who lived in the Islands of Samar, Leyte, Masbate, Romblon, and Negros who were classified as lepers were found to be suffering from other diseases. Not the least of the benefits derived by the collection of lepers in the provinces is the fact that many persons who had for years been outcasts from society on account of being afflicted with diseases that resembled leprosy were treated for the maladies from which they actually suffered and have again been restored to their rightful social status.

During the past year instead of finding less lepers than the reports showed, in a number of provinces many more were found. For instance, in the Province of Albay there were 57 reported. After the examination of all the suspects was completed, 317 were found positive. In Camarines instead of 33 there were 42. In Sorsogon instead of 87 there were 121.

These increases fully offset the erroneous diagnoses of the previous year, so that we must look for other reasons to account for the decreased

number this year over that of the preceding. In view of the fact that 953 lepers were removed to Culion last year and 1,554 this year, it is certain that at least this number of foci of infection was obliterated, and the opportunity of contracting leprosy was just that much reduced.

From the foregoing it is estimated that at least three hundred less persons contracted the disease. The advantage accruing therefrom will at once be apparent. Not only have over three hundred unfortunates been saved from this, the most hopeless and loathsome of all human diseases, but just that many less charges have been thrown upon the body politic, and three hundred nonproducers have been held in the producing class.

The actual work of collecting the lepers and caring for them after they are collected still presents obstacles, many of which at times seem unsurmountable. Regardless of what the opinion of people may be in the abstract, when it comes to persons who will do actual work of transporting them to a seaport, providing their subsistence, aiding them aboard the steamers, making the necessary medical examination, attending to their needs, experience has again and again demonstrated that they are most difficult to find and only persons with superior courage can be induced to continue at the work. One of the greatest aids has been the enactment of Act No. 1711, entitled "An Act providing for the apprehension, detention, segregation, and treatment of lepers in the Philippine Islands."

The practice of making a careful microscopical examination of each case has been faithfully carried out, and no doubt is largely responsible for the confidence which is displayed in the diagnoses made by the medical officers of this Bureau.

The attitude of the people of the Islands as a whole toward segregation has been most gratifying. There is probably no place where family ties are closer than in the Philippine Islands. In spite of the fact that it has frequently been necessary to separate husband from wife, mother from child, brother from sister, friend from friend, they resign themselves to their fate and in addition frequently aid the representatives of the law whose duty it is to carry out the segregation, when it is explained that such action is necessary for the good of the many. With the exception of a few isolated instances, the collection of the lepers has been carried on without any marked opposition or disorder. The only serious accident is that which occurred at Malitbog, Leyte, at which place two lepers became involved in a quarrel, as a result of which one was fatally stabbed. However, quarrels of this kind are not confined to lepers, and scarcely can be said to be connected with the question of segregation.

A frequent experience perhaps worthy of mention is the practice of many municipalites presenting their insane, blind, cripples, and

other incurables who have become public charges, for transfer to Culion. These of course can not be taken care of upon a leper island, but when they are not taken away much surprise is often shown.

The Provinces of Mindoro, Masbate, Romblon, Capiz, Iloilo, Antique, Oriental and Occidental Negros, Samar, and Leyte, have already been gone over two or more times, and with the exception of a few isolated cases, may be said to be free of lepers. The Provinces of Cebu, Bohol, Ambos Camarines, Albay, Batangas, Tayabas, Sorsogon, Benguet, Lepanto-Bontoc, and Ilocos Sur have been gone over once, but are not yet regarded as being free of lepers, and they will necessarily have to be searched over one or more times again.

The present Legislature has made ample appropriation for continuing the work during the coming fiscal year along the lines mapped out by the Philippine Commission during the year just closed.

At the colony proper much work was accomplished, but it has not yet even commenced to assume the appearance it is hoped it will have when the permanent improvements have been installed. The constant idea has been to make the colony, at least temporarily, habitable in the shortest possible time for the total number of lepers in the Islands, so that the opportunities for contracting the disease may be reduced to the smallest limits, and the drain on the resources of the Islands decreased as soon as possible. This plan also has the advantage of keeping the Bureau informed as to approximately how many lepers will have to be cared for at Culion for many years to come, and thereby makes it possible to regulate the extent and character of the permanent improvements to be made.

The Bureau of Health has not only provided all of the medical care and attendance required, but has carried on the construction work as well. Even construction work in the Philippines under the direct charge of the technical Bureau of the Government created for that purpose is attended with many difficulties, such as lack of labor, skilled superintendence, difficulty of obtaining supplies, torrential rains, and many other obstacles; but it sinks into insignificance when compared with construction work on a leper island, that has a steamer call only about once a month, and where labor goes with fear and trembling, often deserting in a body, and where trained superintendence is scarcely obtainable. It is for this reason that particular credit is due to the medical and other officers connected with the Bureau of Health for the results which have been obtained. The construction work done at Culion will compare favorably in character and cost with that done elsewhere.

A reënforced-concrete warehouse has been completed and a 100-bed hospital of the same material is now in course of construction. The work on the hospital is being delayed by the difficulty in obtaining laborers on account of their fear and dread of the disease.

So far it has not been found practicable to have the lepers do work other than that entailed by their own domestic requirements. This course has been adopted in deference to their physical condition, and in respect to their innate disposition to take life easy, which after all is not a bad thing in lepers.

The mortality at the colony still remains high, but it is believed that it is materially lower than it would have been among these same people in their homes, as many of them were beggars and wholly dependent on public charity for their living. The great majority of cases were so far advanced when they were received into the colony as to render them beyond human aid; those who arrived in a reasonably fair condition have gained in weight and strength and are apparently happier, healthier, and better satisfied then they were in their native provinces. The work of the hospital staff has been exceedingly trying and disgusting owing to the prevalence of gangrenous ulcers among the new arrivals, the treatment of a single patient often requiring more time than a major surgical operation. As soon as the hospital now in process of construction is completed, the question of treatment will be greatly simplified by the increased facilities and more favorable conditions.

X-RAY TREATMENT OF LEPROSY.

During the fiscal year treatment of lepers in the San Lazaro Hospital with the X-ray has been continued. The results in 30 selected cases are as follows: Apparently cured, 1; markedly improved, 5; improved, 7; died, 2; the foregoing 30 cases include the 29 persons who were mentioned as being under treatment in the last annual report. One of these died of chronic amœbic dysentery, and the other from puerperal infection, both of which are causes that are apparently in no way connected or capable of being ascribed to the X-ray treatment.

Last year the cases under treatment were reported as follows: Markedly improved, 8; considerably improved, 13; no change, 7; died, 1 (lobar pneumonia). One of the markedly improved cases is now apparently cured. Microscopical specimens taken from regions which heretofore have invariably shown *leprœ* bacilli were found negative during the month of June. The following is a history of the case:

Personal history.—Name, Leon Liuanag; male; age 20; not married; nationality, Filipino; birth place, Bocaue, Bulacan; laborer; uses tobacco moderately; uses no alcohol; good habits; present residence, No. 28, Calle Alejandro VI, Sampaloc, Manila; entered the San Lazaro Hospital August 12, 1906.

Family history.—Parents alive; father in provinces, suspected of having leprosy; mother well; has one brother, alive and healthy; no sisters; relatives, negative.

Past history.—No previous diseases of importance; venereal history, negative.

Present history.—Two years ago he noticed a swelling on the upper lobe of right ear. This swelling was reddish in color, not itchy nor painful. He treated it with family remedies, but it continued to grow worse, spreading all over the

ear. Says that three months after the first lesion appeared on his right ear, noticed also a macular lesion on his lower lip, reddish in color, not anesthetic, not itchy nor painful, which continued to grow slowly. He made no attempt to treat this second lesion. Says that he had no other symptons since the appearance of the disease.

PHYSICAL EXAMINATION.

1. *General.*—Development and nourishment, fair; reflexes, negative; glands, negative; genitals, normal.

2. *Head.*—Scalp, normal; eyes, negative; above left eyebrow there is a small round tubercle, reddish in color, but not anesthetic, not itchy nor painful. Nose: The tip shows a reddening and it is shiny in appearance, and the alæ nasi are infiltrated. Mouth: The border of the lower lip shows from the middle portion to the right angle, a macular lesion, red in color, not anesthetic, itchy nor painful, but with slight infiltration, and measures 2 centimeters long and 6 millimeters wide. Ears: Left normal, and about 4 centimeters in length; the right ear is hypertrophied and measures 7.5 centimeters in length, and 4 centimeters in width; reddish-brown in color, and its lobules show some breaking down of the tissues with some suppuration; rest of the face, normal; neck, normal.

3. *Chest.*—Skin, normal, except that the back shows several round white spots which are somewhat anesthetic; development and expansion, good; heart, normal; lungs, normal.

4. *Abdomen.*—Skin, normal; organs, normal.

5. *Extremities.*—All are normal.

MICROSCOPICAL EXAMINATION.

Examination of blood from the affected parts shows the *Bacillus leprœ.*

Present condition.—Ears are now normal in size; infiltrations about nose and lip have disappeared; no anesthetic areas; white spots on back remain; is apparently healthy and normal; condition of patient before and after treatment is well shown by photographs on succeeding pages.

From the foregoing it will noted that a period of one year and six months elapsed from the time the treatment was begun until an apparent cure was effected.

The remaining seven formerly reported as very markedly improved showed still further improvement. Of the thirteen formerly reported as considerably improved, one left the institution and the remainder show no further improvement. The seven reported last year as unchanged by the treatment show slight improvement. Of the two new cases placed under treatment during the months of January and April, neither one has as yet shown any improvement. The disease, however, has not progressed.

The net result is that one person has been apparently cured; three others show practically no signs of the disease, but are positive microscopically; in seven others the tubercles and infiltrations have been much reduced in size and the remainder present about the same appearance as when they were first placed under treatment, which shows that the progress of the disease was arrested, which is a most important matter.

LEON LIUANAG, PHOTOGRAPHED SEPTEMBER 27, 1906.

LEON LIUANAG, PHOTOGRAPHED JANUARY 12, 1907.

Conclusion.—The foregoing results are far from satisfactory, yet they are believed to be far superior to those which have been obtained by any other form of treatment of which this office has any reliable record; at the same time, some hope of relief is held out to the unfortunate sufferers from this disease.

MALARIA.

Malaria continues to figure in the causes of death to a greater degree than it should. The number of deaths for the period covered by this report is 164 (including those reported as malaria cachexia) as against 173 for last year.

The true conception of the nature of the disease and the manner of contracting it is gaining ground, especially among the younger generation now attending the public schools. Older persons learn of the bad habits of mosquitoes through the school children, and more and more assume an unfriendly attitude against this pest with whom they have lived on terms of "live and let live" relationship all their days. The use of mosquito nets is becoming quite general. In a number of instances complaints have been received that they were not being furnished in public institutions. Owing to the continuous high temperature throughout the year, the practice of screening doors, windows, and other openings of houses has not been practicable because it shuts off the air currents which are absolutely essential in this climate in order to enjoy reasonable comfort; so that mosquito nets must be depended upon for the present, and later proper drainage introduced, in order that the breeding of mosquitoes may be impossible.

The success which was had in preventing this disease at the Iwahig penal colony on the Island of Palawan, has continued. It will perhaps be remembered that one of the most pernicious forms of malarial fever in the Philippines was present in that section, and the efforts made by the Spaniards to found a colony resulted in complete failure. The method first employed was the prophylactic use of large doses of quinine. Drainage work was at once started, and this has now been completed far enough as to cause almost the entire disappearance of mosquitoes. Cases of malarial fever that originate in the city of Manila are still very rare as is also the *Anopheles* mosquitoes.

The entomologist of the Bureau of Science has discovered the mosquito *Myzomyia ludlowii* Theobald, breeding in salt water at Olongapo and near Manila, and by experiment proved it to be capable of transmitting malaria. He has published his results in the Philippine Journal of Science, Section B, Volume II, page 513.

It is believed that this mosquito has been responsible for the large number of malaria cases occurring among the United States marines and sailors that were stationed near Olongapo.

MEASLES.

An extensive inquiry made among physicians who have been practicing in the Philippines for more than twenty years reveals the fact that measles have been extremely common among the Filipinos, and that they have not been as immune as was heretofore thought to have been the case. The disease among Filipinos, however, is extremely benign, rarely ever resulting in death, and seldom leaving any bad sequelæ.

An extensive outbreak of measles occurred among the pupils attending the American school and there was almost positive evidence that it was brought in by children who arrived by transport from the United States. On account of the fact that measles in the United States is a much more serious disease than in the Philippine Islands, it was deemed advisable to take precautions to prevent any new infection being introduced. For this reason the American school was closed and disinfected, as were also the houses from which infected cases came.

Measles are continually being introduced into the Philippine Islands by the troops; it is perhaps worthy of note to mention that scarcely one organization that has traveled as a regiment has arrived here in the past seven years from the United States without measles having made its appearance among the troops during the trip.

THE OPIUM HABIT AND THE PHILIPPINE LAWS REGULATING THE SAME.

On March 8, 1906, the Philippine Commission after carefully considering the report of a special opium committee, which, during the greater part of the years 1904 and 1905, was engaged in studying and collecting data on the subject at close range in those oriental countries in which the habit is prevalent, passed a law for the purpose of restricting the sale and suppressing the evil resulting from the sale and use of opium until March 1, 1908, after which time its importation or use for any but medicinal purposes was forbidden by Act of Congress.

This law defined the term "opium" so as to embrace every kind, class, and character of opium whether ground, prepared, or refuse, and all narcotic preparations thereof, or therefrom, and all morphine, or alkaloids of opium, and preparations in which opium enters as ingredient, together with all opium leaves, whether such leaves or wrappers are prepared for use or not; and provided that it should be unlawful to sell, transfer, give, or deliver opium in any of its forms to any person other than a duly licensed physician, wholesale dealer, or retail dealer in opium, or to a duly registered confirmed Chinese user of the drug, upon the presentation of his certificate. The reservation was made that opium in any of its forms might be sold, transferred, or delivered to scientific Bureaus of the Government, and to hospitals upon the permission of the Collector of Internal Revenue, and also that duly licensed physicians might prescribe and administer it as a medicine, and pharmacists and second-class pharmacists might sell, transfer, give, or deliver the drug

as a medicinal preparation on the prescription of a duly licensed and practicing physician under such regulations as might be prescribed by the Collector of Internal Revenue, and approved by the head of the proper department.

The definition of opium was subsequently modified by the honorable the Governor-General of the Philippine Islands, upon the recommendation of the Collector of Internal Revenue, so as to exclude preparations containing less than two grains to the ounce of opium, in restricted quantities and subject to the presentation of satisfactory evidence that the same was to be used for medicinal purposes only. It is estimated that of the habitués registered in accordance with legal requirements, the greater part continued to use the drug, but during the operation of this first law the habit was almost entirely restricted to those who had already acquired the same. This office has no record of any new beginners.

For some time previous to the expiration of the time limit imposed by the Congress of the United States, certain unscrupulous persons, probably through an organized corps of instructors, began to teach systematically the use of cocaine to the opium habitués, and for a long time it appeared as if one bad habit might be supplanted by another of greater danger. The movement gained such headway that additional legislation became necessary to prevent the introduction among the people of the cocaine habit. The Philippine Legislature on October 10, 1907, repealed the first Opium Act (No. 1461), and replaced it by another (No. 1761) which included cocaine, and also provided that on and after March 1, 1908, it should be unlawful for any person to hold or to have in his possession, or under his control, or subject to his disposition, any opium, cocaine, alpha or beta eucaine, or any derivative or preparation of such drugs or substances. It was provided that Government Bureaus, or officers of the Government, and practicing physicians should be exempt under proper legal restrictions, from the operation of the law. Since March 1, last, the use of opium and cocaine in the Philippine Islands has been officially forbidden except when used for medical purposes under guarded legal restrictions. For instance, it is held to be illegal for anyone to import opium or cocaine into the Islands, this function being vested solely in the Government, which sells these drugs only to such persons as are clearly entitled to have them.

The possession of any opium pipe, hypodermic syringe, apparatus, instrument, or paraphernalia for the use of smoking opium, or hypodermic syringe for the use of cocaine, alpha or beta eucaine, or any derivative or preparation of such drugs or substances, or any other apparatus or instrument especially designed for using any of the said drugs or substances, in or on the human body, shall be deemed prima facie evidence that the person in possesion of such pipe, hypodermic syringe, apparatus, instrument, paraphernalia, or articles, has used some one of such prohibited drugs or substances, or the drug or substance for the use of which such

apparatus, instrument, and paraphernalia are especially designed, without the prescription of a duly licensed and practicing physician, unless such prescription is produced by such person.

As would naturally be expected, the 1st day of March, 1908, was a "black" Sunday for opium habitués. When the truth and seriousness of the situation dawned on the unfortunate sufferers who had sinned away their two years of grace, the conditions were deplorable. The behavior of the victims in the face of the Government's determination to save them by legal force, would truly characterize them as fiends. The term "fiend" is used very liberally by the laity, but such stigmatization is not appropriate until a victim is deprived of the drug to which he has become a slave. In sheer desperation the sufferers sought hospital treatment which the Government had generously provided. The rush was so great and the task so severe that the San Juan de Dios Hospital, which had previously held the contract, asked to be released on the ground that it did not possess proper facilities for the accommodation and restraint of so large a number of frenzied patients. In order to meet the emergency, several wards of the new insane department of the San Lazaro Hospital were made ready for the reception of the opium patients, and the San Juan de Dios Hospital released. In the new quarters they fought, screamed, threatened, and sulked until they realized that the Government meant business, when they quietly submitted to treatment by the humane reduction method, administration of nutritious food and the stimulus of moral encouragement, and were cured. The Chinese consul-general of the Philippine Islands and the Chinese Chamber of Commerce rendered valuable aid in dealing with their people.

The Rev. Mr. Studley, missionary of the Protestant Episcopal Church of America, at great risk to his personal safety and absolute destruction of his personal comfort, took up his residence with these people and worked as a hospital attendant, and more credit than the Director of Health can give him in a report of this character is his due. His work was not confined to Manila, but he went to Cebu when the Bureau of Health established a hospital there, and labored incessantly for a number of weeks. The combined efforts of the provincial board, the district health officer, and the Rev. Mr. Studley, however, could not overcome the indifference and opposition of the persons affected in that province, whereupon the hospital was closed May 27, after running forty-two days.

The contract with the Mission Hospital at Iloilo was continued during the year on a very satisfactory basis. To this and to all Government hospitals treating the opium habit, transportation is provided the patients free of charge, so that the benefits of instructional treatment, restraint, and encouragement may be available for all. The selection of a hospital is determined on a basis of transportation facilities and traveling expenses.

Experience has demonstrated that the opium habit is not a particularly difficult matter to treat, especially among the smokers. Those

who used the drug by mouth experienced more inconvenience, and those who were in the habit of using it hypodermically suffered considerably. The method employed by this Bureau is that known as the "reduction method." When the contract was held by the San Juan de Dios Hospital considerable trouble was experienced through the zealous efforts of friends, and the mercenary motives of others, surreptitiously to supply the patients with opium products. This trouble was also encountered to some extent after the patients were transferred to San Lazaro, and until it was completely removed the question of a cure was beyond the range of possibility. Just how many relapsed after being discharged from the hospital is, of course, not known; but it is noteworthy that a great many of the habitués expressed themselves as being extremely grateful that they had been cured, and that they would not again permit themselves to become victims. In Manila, no cases of relapse have come under observation, but in Cebu the persons treated did not take kindly to the efforts that were made to redeem them, and many are known to have relapsed promptly. During the past few months, the treatment of these cases at Manila has apparently yielded excellent results. This is largely due to the hearty coöperation which was extended by the friends of the victims. At Cebu this coöperation was not forthcoming; the victims themselves were opposed to being cured, and almost a complete failure has been the result. The users at Cebu are now being vigorously prosecuted and severe penalties imposed. Such cases, of course, come under compulsory treatment in the hospital of the prison, and it will be interesting to observe the outcome. The following table shows the total number treated, the result of the treatment, and the name and place of the hospital at which treatment was given:

Place.	Nationality.	Admitted during year.	Recovered.	Improved.	Not improved.	Remaining at close of year.
San Lazaro	Filipinos	17	14	3		3
	Chinese	383	365	18		18
	Others	1	1			
	Total	401	380	21		21
San Juan de Dios	Chinese	223	63	[1]2		158
	Filipinos	36	34			2
	Others					
	Total	259	97	2		[2]160
Mission, Iloilo	Chinese	3	3	3		
	Filipinos					
	Others					
	Total	3	3	3		
Cebu	Chinese	27	27			
	Filipinos	37	37			
	Others	1	1			
	Total	65	[3]65			
	Grand total	725	542	26		181

[1] Escaped 1, discharged as improved 1.
[2] Transferred to San Lazaro Hospital for treatment.
[3] Relapsed after leaving hospital.

The Bureau of Health has recently imported shoots of the plant *Combretum sundaicum,* which has gained so great a reputation in the treatment of the opium habit in India, and in a short time will be in a position to give the remedy a thorough test. The importation of this plant was made not because the "reduction treatment" was unsatisfactory, but with the hope that it might prove less severe, and also for the purpose of studying its pathological and therapeutical effects. The reputation of the remedy rests almost entirely upon empiricism.

PARAGONIMUS WESTERMANII INFECTION.

In the report for last year attention was called to the fact that seventeen cases of *Paragonimus westermanii* had been found in Bilibid Prison. Eight of these were fatal, the diagnoses having been made at autopsy. The figures for the past year are 14 cases and no deaths. This year as well as last, in several cases it was ascertained that trematodes were not confined to the lungs, as they were found in the various organs of the body and particularly in the brain. It is practically certain many cases which were diagnosed as tuberculosis were really fluke infections.

PLAGUE.

The Philippine Islands have been entirely free of plague originating locally since April 20, 1906, but the Director of Health has maintained a strict vigilance, exercised chiefly through the United States Public Health and Marine-Hospital Service, against the disease.

On July 23, 1907, the steamship *Ferd Laeisz* arrived in Manila from Hongkong and other Chinese ports. At the examination made by the quarantine inspection a case suspicious of plague was found. This was transferred to the San Lazaro Hospital, where the diagnosis was confirmed bacteriologically. The vessel was remanded to the Mariveles quarantine station for treatment and detention. There was no further spread of the disease.

Up to the present time there has been no exception to the remarkable regularity of the time of the year in which plague develops in Hongkong, Amoy, and other Chinese ports. During the month of May the disease makes its appearance, the fastigium being reached during June or July, after which it gradually declines until the month of November is reached, when there is usually a complete disappearance of the disease. So far, no satisfactory explanation has been offered for this phenomenon.

On June 9, 1908, the following circular was issued for the guidance of quarantine officers throughout the Philippines:

TREASURY DEPARTMENT,
U. S. PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,
Manila, P. I., June 9, 1908.

[Circular letter.]

The MEDICAL OFFICER IN COMMAND,
United States Public Health and Marine-Hospital Service.

SIR: In view of the large number of plague cases reported at Hongkong, Canton, and other oriental ports in close communication with the Philippine Islands, the conclusions of the Indian Plague Commission, which has made a comprehensive study of this disease, and has issued the same in a complete volume, are of particular significance, and it is desired that the officers of this service stationed in the Philippines who deal with vessels arriving from plague infected ports, be guided by its conclusions, which are as follows:

"1. Pneumonic plague is highly contagious, but it is rare (less than 3 per cent of all cases) and plays a very small part in the spread of the disease.

"2. Bubonic plague. Man is entirely dependent upon the disease in the rat.

"3. The infection is conveyed from rat to rat, and from rat to man solely by the rat flea.

"4. A case of bubonic plague in man is not in itself infectious.

"5. A large majority of cases of plague occur simply in houses. When more than one case occurs in a house, the attacks are generally nearly simultaneous.

"6. Plague is generally conveyed from place to place by imported rat fleas which are carried by people on their person, or in baggage. The human agent not infrequently himself escapes infection.

"7. Insanitary conditions have no relation to the occurrence of plague, except in so far as they favor infection by rats.

"8. The nonepidemic season is bridged over by acute plague in the rat accompanied by a few cases in man."

VICTOR G. HEISER,
Chief Quarantine Officer of the Philippine Islands.

Vessels arriving from plague-infected ports are fumigated for the destruction of rats and vermin. There is no hypothesis other than that of constant watchfulness that will explain why the Philippine Islands should be free from plague when an active commercial intercourse is maintained with near-by infected ports.

The following editorial comment, extracted from an article published in the Boston Transcript, is cited as representative of the comments of the press of the United States on the plague situation in the Philippine Islands:

A PLAGUE LAND NO LONGER.

One of the notable successes of American administration in the Philippines is that won by the skillful and devoted physicians of the Public Health and Marine-Hospital Service, who have charge of the sanitation of the Archipelago. In a few years they have completely transformed the sinister reputation of Manila and the other Philippine cities, and have made considerable progress toward teaching the inhabitants of the remoter provinces how to live and to defy the pestilences which, descending from the Asiatic mainland, have periodically swept like devastating fire through the Filipino towns and villages.

The Spaniards were as notoriously unable to cope with disease in the Philippines as they were in Cuba. Up to the year of American occupation, Manila was one of the worst plague spots in the East, and the average rate of mortality among the natives and the foreign residents was entirely suppressed or inadequately stated, it was so appalling. When the first American soldiers sailed across the Pacific one of our Boston newspapers, violently opposed to the National Administration, distinguished itself by the jubilant prophecy, often and exultantly repeated, that they would all be dead before the year had ended, and that the American Government could never keep an army in the Philippines without resorting to forcible conscription!

How half-crazy, half-ludicrous this prediction now appears in the face of the report of Dr. Heiser, Director of Health, that the death rate among the Americans in Manila in the quarter ended March 31, 1907, was only 5.4 per thousand. Nor are our civilian and soldier countrymen the only beneficiaries of the vigilant and forceful American system of sanitation. The death rate for the entire population of Manila, Filipinos, Chinese, Europeans, all included, was only 28.48 per thousand, which is a remarkably low figure for the Orient. The record steadily improves with the increasing grip of the American sanitary authorities on this peculiarly difficult situation. Thus, there has not been one case of the plague in the Philippines since April 20, 1906.

SMALLPOX.

More cases of smallpox came under observation during the year covered by this report than during the preceding fiscal year, yet at no time did the disease become epidemic, which was in striking contrast to the conditions that have prevailed in the near-by countries. In some of the large cities of Japan, for instance, as many as a thousand cases per week occurred, while in Manila not more than a few cases per day were reported.

The disease was found mostly among recent arrivals from the provinces who had not been properly vaccinated. The reappearance of the disease in many towns of the provinces was apparently due to two causes; first, the undoubted lowered potency of the vaccine during certain periods of the year, and second, to the negligence of the municipal officials in not vaccinating the new-born children, and other unvaccinated individuals who had come into the province after the systematic vaccination of the same was completed. Experience has shown conclusively that the Islands are literally saturated with the infection of smallpox, and wherever there is an individual who is not protected by a previous attack, or by a successful vaccination, the disease soon seeks him out and he becomes one of its victims.

Another difficulty is that as the vaccinators continue their work they are ever going more and more into remote places where it is most difficult to supply them with vaccine in a potent state.

At Bilibid Prison the disease made its appearance a number of times. In view of the fact that every prisoner is vaccinated upon entering the prison, at first sight it would seem that smallpox in this institution should cause considerable doubt upon the efficacy of vaccination. But

upon examining the afflicted individuals it was found that in nearly every instance the pock marks of previous attacks were revealed, thus showing that they were unusually susceptible individuals whom even a previous attack did not protect.

The principal feature of surprise in the recent smallpox outbreaks was its virulence. Ordinarily the mortality for this disease among Filipinos is about 5 per cent, never above 10 per cent, but in the outbreak of this year it ranged from 25 to 50 per cent. The disease was almost entirely confined to the nonvaccinated. Notwithstanding the repeated warnings given through the press and by circulars, many persons, especially the Americans, failed to be vaccinated. The probability of an outbreak among the unprotected towns at the close of the dry season was made the subject of special notices of warning, but it required the presence of an epidemic to arouse the people to action. As soon as the disease assumed noticeable proportions, the health stations were besieged by applicants for vaccination.

SPRUE.

Sprue is a most uncommon disease in the Philippine Islands. Only two cases have come under observation. So far as is known, it is not a communicable disease, nor does it occur in epidemic form, and is therefore of no great importance to the sanitarian of the Philippines.

HUMAN TRYPANOSOMIASIS (SLEEPING SICKNESS).

On a trip made during February for the purpose of collecting the lepers assembled at Albay from the Province of Albay, a blood specimen was taken from one of the persons who had been sent in as a leper suspect, and the slide being negative for *lepra* bacilli, the patient was released. This slide was taken to the laboratory in Manila, but unfortunately in the interim the identification marks became obliterated, and it could not be definitely ascertained from whom the specimen was taken. The specimen in question was made by Mr. F. H. Willyoung, of the Bureau of Science, and on being examined at the laboratory was found to contain trypanosomes, which were identified as being *Trypanosomii gambiensi*. A further effort was made to locate the person from whom this slide was taken, Mr. Willyoung making a special trip to the Province of Albay for this purpose. He succeeded in finding all of the individuals who had been previously examined as leper suspects with the exception of one person, a resident of the town of Camiling, who had died in the meantime, but he did not succeed in finding any further evidence of trypanosomes among the residents of that section. It is not known whether the person who died was the one from whom the trypanosomes were obtained or not.

During the closing days of the year another case which resembled sleeping sickness was reported in a person who is said to be a native of

Camiling, Albay. Arrangements are now being made for a member of the staff of the Bureau of Science to go to Albay for the purpose of investigating this matter.

TUBERCULOSIS.

With the exception of the tuberculosis hospital for prisoners afflicted with this disease, there is not a hospital in the Philippines entirely devoted to the treatment of such cases, yet this country is not far behind in the possession of crusaders against the great white peril.

The city of Manila has stringent ordinances against expectorating on sidewalks and in public places, but they have not been rigidly enforced, because it was deemed expedient as a matter of public policy to approach the problem at first in an educational way and give people an opportunity to familiarize themselves with the sanitary requirements.

The statistical tables will show the number who have succumbed to the disease in Manila during the fiscal year. The total is slightly less than it was last year. The Manila statistics are fairly suggestive of the ratio throughout the provinces.

The 1,167 deaths from tuberculosis in Manila represents 13 per cent of the total number of deaths for the city, or a death rate of 5.04 per thousand of the population. No reliable figures have been received from the provinces, but as stated before the conditions may be judged from the Manila statistics.

Tuberculosis has long been regarded by the public as a necessarily fatal disease, and it is very difficult to convince those afflicted with it that it often yields to the simplest hygienic measures; the people want a sign before they will believe. Formerly it was the practice to recommend a change of climate, but experience has amply demonstrated that the treatment is more dependent on proper nutrition than on meteorological conditions. Thousands of patients who have died in despair because they could not avail themselves of the benefits of climatic change might have been cured at their own homes. The requisites everywhere in the treatment of tuberculosis are: open air, abundance of nourishing food, and close medical supervision.

Sanitaria results with this treatment have often been as successful in New England as in Colorado and California. It is not the purpose of these comments to underrate the value of favorable climatic conditions in the treatment of this or any other disease, but the benefits are oftentimes more than offset by the inconveniences of travel, loneliness and homesickness, and the necessary status of patients among strangers.

There is no specific medical treatment of tuberculosis. It is purely a question of combating the germs by the natural powers of bodily resistance, encouraged and stimulated by those agencies which favorably

affect metabolism. Proper hygiene and diet, the attention to the little things peculiar to each individual case, together with appropriate medication for special conditions as they arise, can be best supervised in a sanitarium; hence such treatment has been the most successful.

No disease makes such a drain on the resources of families, for its long insiduous course prevents its unfortunate victims from earning their living, thus oftentimes enforcing a condition of debt and actual want. In such cases the Government should take up the burden, and the time is not far distant when an appeal must be made for funds to erect Government sanitaria.

The insurance companies of Germany during the last two years have spent $1,000,000 for the erection and maintenance of sanitaria in which to treat tubercular policy holders. If these companies find it worth while to prolong the lives of their policy holders, is it not worth while for the State to throw out the life line to its suffering citizens?

The actual loss in the wage-earning capacity of an affected individual can be easily computed, as may also the expenses incurred, but the potential loss to the community at large can not be estimated. The aggregate is stupendous. If the great misery, humiliation, suffering, and despair of stricken victims, of the relatives and friends and those dependent upon them, be ignored altogether, and the question considered from its financial aspect alone, it would be a matter of wise public policy to relieve, in part, at least, this drain on the productive capacity of the country, which is measured in millions every year.

A large percentage of all cases of incipient tuberculosis is curable, hence a Government sanitarium should be limited to patients in the early stages of the disease. Every case in the advanced stage would exclude a case that could be cured. It will be at once seen that if patients are taken in to die, the institution would soon be looked upon as a place of final resort, and the educational factor in its purpose entirely lost sight of by the public.

One of the principal objects of a sanitarium is to educate the people. The influence exerted by those that are cured is the greatest power in the educational crusade against this disease. In the United States, it has been found that the average duration of treatment is about six months. An institution with a capacity of one hundred patients—that is, two hundred a year—ought to send back to the people at least 160 (80 per cent) missionaries to preach hope and health to their countrymen. The people must realize the nature of this disease; that it is communicable and preventable; that taken in time and properly treated it is curable. One enthusiastic patient returned cured is worth more among these people than all the circulars and literature that could be produced on the subject. The Bureau of Health has records of cures in the provinces as well as in the local hospitals, of cases which appeared hopeless.

Some of the provincial cases were treated along the lines suggested in the bulletin on this disease issued by this Bureau, without the aid of a physician.

When the finances of the country will permit, compulsory hospitalization for consumptives in the advanced stages may be advisable, but the educational side of the question is of the most importance at this time.

The Government will appoint delegates to the coming International Congress of Tuberculosis to be held at Washington City.

In connection with this subject, it may be interesting to quote the preliminary report of the Philippine Committee representing the International Association for the Study and Prevention of Tuberculosis:

MANILA, P. I., *March 21, 1908.*

Dr. JOHN S. FULTON, Secretary-General,
National Association for the Study and Prevention of Tuberculosis,
810 Colorado Building, Washington, D. C.

MY DEAR DOCTOR FULTON: Your letters of September 13, 1907, were duly received, appointing Doctors Heiser, Strong, and Marshall the committee representing the National Association for the Study and Prevention of Tuberculosis for the Philippine Islands.

The committee has been working as much as opportunity allowed to prepare the way for the fight against tuberculosis in the Philippine Islands. As yet there is very little reliable data as to the extent to which tuberculosis prevails here, and there is no centralized effort to combat the disease. So far it has not been feasible to institute an organized campaign against tuberculosis on account of the magnitude of the work at present in progress directed to the extermination of smallpox, leprosy, cholera, beriberi, and other infectious diseases from these Islands, and the establishment of a suitable condition of public and household sanitation. We are, however, gathering information in regard to tuberculosis and are gradually arousing the medical profession to a realization of the importance of this subject and to the need of concerted action.

The death certificates of the Bureau of Health indicate that tuberculosis is a common disease among the native Filipinos, and that it is frequently encountered in the State prison. The careful routine autopsies recently inaugurated at the Philippine Medical School already throw considerable light upon the subject. In the first one hundred autopsies, tuberculosis was the cause of death in thirty-four cases; was present as a subacute or latent lesion in eleven cases, and was present as healed focus in nine cases. The only morbid conditions which revealed a like frequency were amœbic ulceration, which was found fifty-four times, and the intestinal parasites which were present in practically every case; while next in importance came pneumonia, which was the cause of twenty-three deaths. The figures speak for themselves and comment is unnecessary.

The only institution for tuberculosis patients in the Philippines is a hospital conducted by the Bureau of Health for the isolation of tuberculous prisoners from the State prison, and yet the need of suitable institutions is indicated by the statistics given above, while the habits of the natives, their generally poor state of nutrition, and the crowded condition of their homes all furnish conditions favorable to the spread of the disease.

As we have remarked, no systematic campaign has yet been definitely launched against tuberculosis in the Philippines, but a general survey of the field inclines your committee to believe that this disease is closely associated with other prevent-

able diseases of the Islands, and that the campaign must begin with a concerted effort on the part of the medical societies and with education of the ignorant Filipino tao or peasant in the elementary laws of hygiene. We may be able to attack this problem in Manila through the agency of the Bureau of Health dispensaries, which are scattered through the native sections and which would make excellent centers for a house to house campaign.

There is little hope of our being able to institute a campaign in the regions outside of Manila until we have proved successful locally, but we hope eventually to meet this condition through the Philippine Medical School which is engaged in instructing native men and women who have received a high school education, and who, when they graduate in medicine, will spread through the outlying districts of the Philippines and diffuse their knowledge in regions now entirely devoid of medical attention.

Recent investigations have shown that intestinal parasites are even more frequent among the Filipinos than among the Porto Ricans. At the last annual meeting of the Philippine Islands Medical Association a resolution was adopted requesting the Governor-General to appoint a committee for the purpose of attacking the problem of the disposal of feces with a view to diminishing the presence of intestinal parasites.

At the same meeting, upon motion of your committee, the president was instructed to appoint a committee representing the Philippine Islands Medical Association to coöperate with your committee in the struggle against tuberculosis. We hope that these two tuberculosis committees will be able to coöperate with the Governor-General's committee and to use the information acquired in launching an anti-tuberculosis campaign.

Very truly yours,

VICTOR G. HEISER,
RICHARD P. STRONG,
HARRY T. MARSHALL.

TYPHOID FEVER.

The mortality statistics for the city of Manila show that there have been 84 deaths from typhoid fever as against 66 deaths during the previous fiscal year. Very few of the deaths were verified by autopsy, and it is believed that some of the diagnoses are open to doubt; however, the number of cases seem to increase from year to year. The cause for this was fully discussed in last year's report.

Statistics from the provinces are not available, but it is not thought that the disease has been very prevalent. The Manila cases have, for the greater part, been imported. The real immunity from this disease in the past has probably been due to the comparatively small number of flies and to their facilities for obtaining food in Filipino homes without any necessity of visiting the remote portions of the premise. The completion of the new water system will lessen the danger, and probably enable the health authorities to keep the disease from ever becoming epidemic.

YAWS.

This disease was encountered during the year at a number of different places throughout the Archipelago. It was observed among some lepers that were being transferred from the Province of Albay to Culion. Shortly after they arrived the disease was discovered among other lepers

who were at Culion before the Albay lepers came, thus showing almost conclusively that the disease is communicable. At the San Lazaro Hospital (leper ward) some further spread also took place, apparently from the cases which were reported last year. These cases received no treatment except a local application of an oinment of boric acid, while some patients applying to the outpatient dispensary of the Bureau of Health were treated with mercury and the iodides. No difference could be observed in the time of convalescence of the treated and untreated cases.

No deaths from this disease have been reported.

AN UNDETERMINED DISEASE.

On January 4 a case was encountered in the city of Manila which occasioned this Bureau considerable anxiety. In the district of Santa Cruz a Filipino aged 18, an employee in an umbrella and hat factory, took ill suddenly on the morning of January 3. He complained of severe pains in the chest, but no vomiting or diarrhœa were present. No reliable data could be obtained, but from the best information that could be had, it appeared that he had no fever. On the morning of January 4 he died, at which time the case first came to the notice of this Bureau. The body was sent to the San Lazaro Morgue as a cholera suspect, but upon autopsy, findings common to a severe form of septicæmic poisoning were encountered, with extensive hemorrahages throughout the lungs and upon the serous surfaces of the heart. Slight enlargement of the spleen and considerable free fluid in the abdominal cavity were found. The intestines showed slight signs of enteritis, but no special pathological changes were noted. The mesenteric glands were considerably enlarged and exuded serum freely upon section. A similar condition likewise obtained in the lymphatic glands of the chest. Smear preparations were made from the glands of the chest and stained in the usual way for plague bacilli, and typical bipolar organisms were found. A number of experienced microscopists examined the specimens, and all were unanimously of the opinion that the organisms closely resembled those of plague. Cultures were likewise made of the intestinal contents. The pathological findings so closely resembled those of plague that the Bureau of Health deemed it necessary at once to inaugurate all the modern methods for combating this disease. The house in which the case occurred was thoroughly disinfected and later treated with petroleum. All textiles were soaked in bichloride while rat bane and rat traps were placed about the premises, and a general campaign of rat catching was commenced throughout the entire city for the purpose of ascertaining whether the rats of Manila were plague infected. A careful investigation was then made of this case from a clinical and epidemiological standpoint, with the result that indicated as closely as

an investigation of this kind can that the case was likely not plague. In the meantime the laboratory investigation was continued, and within a period of forty-eight hours cultures which had been obtained from the glands grew with typical spore formation, showing almost conslusively that they were not plague bacilli, particularly because the latter do not produce spores, and more time is required for cultures to grow. The diagnosis was still further clarified by almost pure cultures of cholera vibrio being obtained from the specimens taken from the intestines. Innoculations into guinea pigs also failed to produce plague.

CEMETERIES.

The amount of work thrown upon this office during the year in connection with the enforcement of Act No. 1458, which has for its object the regulation of the cemeteries throughout the Islands, has been very heavy. It is quite probable that an equal amount of time devoted to some other branch of sanitary work would have yielded much better results.

The experience of the past two years has clearly demonstrated that in the majority of the cemeteries it has been customary to inter human remains in the same place which has been utilized for a similar purpose a few months or years previously. No records seem to have been kept as to the exact location of bodies, and it has not been an infrequent experience that the mourners who accompanied the dead to the burial ground had to witness the uncovering of remains that were buried at an earlier date.

The records of the total number of interments in some cemeteries showed that at least five or more bodies had been buried in one grave. Steps have been taken to remedy this condition by having the rules which are given below enacted into municipal ordinances throughout the Islands, and by closing the cemeteries which were overburied. This latter action has given rise to considerable friction in some provinces; but with the exception of a few isolated instances, the owners of cemeteries are now complying with the law.

During the year definite action was taken upon 548 cemeteries. Two hundred and ten were ordered closed, and 198 sites for new cemeteries were approved. Eight new sites were disapproved for cemetery purposes, on account of not conforming to the law; 128 cemeteries already in existence, were authorized for continued use; 3 were enlarged and 1 was reopened. Since the law became operative, 909 cemeteries have been acted upon, and it is estimated that there are still 621 cemeteries that have not been reached. From the foregoing it will be apparent that over one-half of the cemeteries have been acted upon.

In view of the fact that a routine procedure has now been definitely established, it is hoped that this work will be nearly finished before the end of the next fiscal year.

CEMETERY RULES AND REGULATIONS.

All cemeteries now existing or hereafter established must conform to the requirements of Act of the Philippine Commission No. 1458, and be governed by the following regulations:

GENERAL.

1. Cemeteries shall be traversed by a main road 2 meters wide, from the main entrance to the opposite side, and, beginning at the main entrance, at a distance of every 30 meters, this main road shall be intersected at right angles by paths at least 1 meter in width traversing the cemetery from one side to the other.

2. Cemetery sites should be inclosed by a suitable fence sufficiently high and strong to prevent the entrance of animals and provided with a gate or door with a lock.

3. Trees may be planted only in such manner as will not obstruct the area set aside for graves.

4. The cemetery shall be open for interments every day, between the hours of 6 o'clock a. m. and 6 o'clock p. m. Between the hours of 6 p. m. and 6 a. m. the cemetery door or gate shall be closed and locked, and no one shall be permitted to enter cemeteries between these hours except upon authority of the president and municipal council, first obtained.

GRAVES.

5. In all general cemeteries graves shall be dug side by side, in a row, and shall be numbered consecutively.

6. Graves shall not be less than 1½ meters deep.

7. The grave for an adult shall occupy not less than 3 square meters of ground, which space shall be utilized as follows:

The grave itself shall be 2 meters long and 85 centimeters in width, and on all sides of same there shall be an unoccupied space 20 centimeters wide. Thus, the entire space allotted for an adult shall not be less than 2.40 meters long and 1.25 meters wide, and the entire area of same shall not be less than 3 square meters.

There shall be an open unoccupied space, 40 centimeters wide between any two adjoining graves.

8. There shall be placed at the head of each grave a marker of wood or other suitable material, which shall bear the number of the grave. These markers shall be of uniform size and shape, and the numbers shall be burned or cut thereon. This marker shall not be constructed as to prohibit the placing of any tombstones.

DISINTERMENTS.

9. The disinterments of bodies from cemeteries, and the transfer of bodies from place to place, is strictly prohibited except in accordance with the provisions made therefor in Act No. 1458.

CEMETERY REGISTER.

10. Hereafter Municipal Form No. 23, section 3, "The Register of Deaths," shall be called "The Death and Cemetery Register." The municipal secretary shall enter under the column of "Remarks" of the death and cemetery register, the name of the cemetery in which the body has been buried, and the number of the grave which it occupies. Tenientes of barrios, or persons other than the municipal secretary, who are authorized to issue burial permits, shall, when making reports to the municipal secretary of the burial permits issued, also

state therein the cemetery in which each body is interred and the number of the grave it occupies, in order that the municipal secretary may make a record of the same in the register of deaths and cemeteries.

11. The municipal secretary shall prepare and keep a plan of all cemeteries of the municipality, upon which shall be indicated a number of spaces equal to the number of graves which may, under the provisions of this ordinance, be dug in each cemetery, and the spaces representing graves, indicated thereon, shall be numbered consecutively, beginning with No. 1. When any grave is occupied by a body, the corresponding space on the plan shall be marked with the word "occupied."

CARETAKER.

12. A caretaker shall be employed whose duty it shall be to dig graves, to remove all weeds and rubbish from the cemetery; to keep the roads, paths and decorative trees and plants in good condition constantly; to keep the fence and gate in good repair; to keep grave markers in proper position, and to perform any other labor which may be required to keep the cemetery site and fence in good condition at all times. It shall also be the duty of the caretaker to require the owners of monuments or other property in the cemetery to keep the same in good condition.

13. The caretaker shall see that each grave is dug at least 1½ meters deep; that graves are dug side by side in a row; that each grave is of the proper length and width and that the free space of 40 centimeters between adjoining graves is strictly observed.

14. The caretaker shall be ready to open the gate of the cemetery between the hours of 6 a. m. and 6 p. m. on any day, for the purpose of permiting the interment of bodies. He shall be the custodian of the key of the cemetery. Between the hours of 6 p. m. and 6 a. m. the cemetery gate shall be closed and locked, and no one permitted to enter except by the authority provided for in rule numbered 5.

15. The caretaker shall not permit the interment of any body in the cemetery unless accompanied by a proper burial permit which shall have been issued within forty-eight hours from the time presented to him, and he shall permit no disinterments to be made unless a proper permit therefor is presented.

FEES.

16. The fee for each burial permit shall be..... (Act No. 1530 provides that fees for burial permits shall not exceed 50 centavos.)

17. The charge for each grave shall be .....

18. Any person violating the provisions of these regulations, or any part thereof, shall, upon conviction, be punished by a fine not to exceed ₱200, or by imprisonment for six months, or both, for each offense, in the discretion of the court.

It would also be desirable to construct in each cemetery a small, neat, house or shed, to protect mourners from the sun or rain.

A sketch has been prepared to accompany the above regulations, showing the general plan to be followed in establishing a cemetery.

SANITARY CONDITIONS IN MORO PROVINCE.

The Moro Province consists of all that portion of Mindanao, including the many small islands adjacent thereto, not embraced within the boundaries of the Provinces of Surigao and Misamis, which, being regularly organized provinces, are governed under the general provincial code.

Some idea of the size of the Moro Province may be obtained from the consideration of the fact that its 450,000 inhabitants give a density of population of only 15 to the square mile, as compared with 67 to the square mile for the entire Philippine Islands. There are 50,000 Moro children, 28,000 pagan children and 12,000 Christian children of school age, that is, between 8 and 15, in the province.

The Moros and pagans, while at variance with the Filipino people in matters of religion, law and customs, support them assiduously in their opposition to race suicide by rendering loyal obedience to the first part of the biblical injunction, but, unfortunately, here as everywhere else in the Philippines, thousands of children are born but to die. The majority, perhaps, never live to see the first anniversary of their birth. The doctrine of right living needs to be taught and practiced in the midst of those who through ignorance are responsible for this alarming prevalence of race homicide. Nature has done her part to an unusual degree. The country is blessed with a salubrious climate and a bountiful food supply.

The superintendent of schools for the Moro Province in his annual report for last year in discussing the purpose and scope of the local public schools, came very near to suggesting what will be the ultimate solution of the problem when he said:

> It is essential for the Filipino child to know how to live, not in the highly organized society of America or Europe, but here in his own native land, surrounded by more primitive conditions. And if this is the true purpose of education, it would be foolish for us to impose upon the great mass of the Filipino peoples an education calculated to fit them for life, under conditions which do not obtain in their native land, and which, even under the most favorable circumstances, can not obtain there for generations to come. It is, indeed, a legitimate purpose of education to stimulate healthy, natural growth to the utmost. We are therefore justified in teaching in the schools concepts a step in advance of existing conditions, that our pupils may be fitted to lead in the national development. But no step in the orderly development of national life can be slighted or omitted. The foundation must be well and firmly laid if we wish to raise an enduring superstructure.
>
> We have then to consider what is the next step to be taken in the orderly development of the people of this province. Few will gainsay the assertion that no considerable progress in culture or in any phase of national life can take place without the practical basis of material prosperity. Material prosperity in the Moro Province means agricultural and industrial expansion. The immediate purpose of education in our primary schools should be, then, to lay the solid foundations of prosperity by stimulating our agricultural and industrial development. That is, every primary school of our system, though including the ordinary subjects in its curriculum, should lay emphasis upon industrial or agricultural training. This does not mean, however, that opportunity should not be given to all who so desire to educate themselves for professional careers. It merely determines the kind of instruction which will be most useful to the vast majority of pupils whose opportunities for education are limited to the primary school.

The superintendent was not writing of sanitation, but he could have gone further and shown that the knowledge of how to live correctly means infinitely more than knowing how to make a living; it signifies, from the standpoint of the sanitarian, rules for perfect culture of mind and body. It is true of the people of the Moro Province, as it is true of the people of the whole world, that if they had the knowledge and desire, they could literally choose between health and diseases, not always individually, for the sins of ancestors are visited upon their descendants, but as a race; man directs his own destiny and can select between good and evil in health matters as well as in other things; hence it is but natural that the sanitarian should cherish the belief so beautifully expressed by the late Dr. Parkes that as time unfolds the scheme of the world, it is not too much to hope that the choice will be for good.

The Moro Province is divided into five districts, known as Zamboanga district, which includes the subdistrict of Dapitan, Sulu district, Lanao district, Cotabato district, and Davao district, each having its own capital and being subdivided into municipalities and tribal wards. The provincial capital is at Zamboanga, the capital city of the province of the same name, and the chief commercial, political and social center of Mindanao. This municipality is now governed by a Filipino president, a Filipino secretary, and American vice-president, and a council composed of five Filipinos, one European, and one Chinaman. The Chinese business interests of Zamboanga are larger than all other interests combined, the representatives of that race being merchants, brokers, planters, and landowners. The Chinese of Zamboanga are proverbially generous in their support of every public measure, improvement, or amusement, that is for the general good. They recently subscribed liberally to a fund to pay off the debt of the rectory of the local Episcopal Church, and they as cheerfully support the local health ordinances, and in every way display a patience, persistence, and conservatism which must inevitably result in permanent success and reflect credit on their race.

The general provincial government is vested in a governor, attorney, secretary, treasurer, superintendent of schools, and an engineer who constitute the legislative council.

THE PROVINCIAL BOARD OF HEALTH.

The Act of the Comission, authorizing the organization of the Moro Province, went into effect July 15, 1903, but it was not until March 29, 1905, that the legislative council passed Act No. 110, providing for the establishment of a provincial board of health with authority to organize district and municipal boards of health.

The provincial board of health consists of the governor as president,

the superintendent of schools and the provincial engineer. The chief clerk in the office of the provincial secretary is designated by law as the secretary of the board, and the attorney for the Moro Province as its legal adviser, thus very closely identifying the provincial board of health with the legislative council.

The board as originally organized contained two physicians, the governor, Maj. Gen. Leonard Wood, and the superintendent of schools, Dr. N. M. Saleeby. The board as now organized is without a medical member; however, this anomalous and undesirable state of affairs is somewhat relieved by a provision of law requiring that the provincial board of health shall exercise its powers under the direct supervision of the Bureau of Health for the Philippine Islands. The powers of the board are varied and include the general supervision and control over the health and sanitary conditions of the Moro Province, including the health of domestic animals and the control of the district and municipal boards of health; it is required by law that it shall cause to be prosecuted all violations of sanitary laws and enforce the regulations of the Bureau of Health for the Philippine Islands throughout the Moro Province. It has the power to abate nuisances endangering the public health; to remove the cause of any special disease or mortality; to make and enforce such interior quarantine regulations as it may deem necessary in any part of the province, and to make and enforce quarantine regulations (subject to the approval of the Chief Quarantine Officer for the Philippine Islands) at ports of entry or other ports at which the quarantine service may not have been established. It is also charged with the duty of making and enforcing regulations for the maintenance, in a sanitary condition, of the prisons and other public institutions of the province or of any municipality within the province, and to cause every provincial and district jail or other public institution within its jurisdiction to be visited at least once a year by a member of the provincial board of health, for the purpose of investigating the sanitary condition thereof and making recommendations for the improvement of the same. It must also provide for the medical attendance of prisoners confined in provincial, district and municipal jails, or other public institutions, and, in its discretion, on indigents. It is duty bound to lend its assistance to medico-legal cases when requested by proper authority.

Besides its general powers, it is also vested by law with contingent emergency powers to the extent that when in its opinion the Moro Province, or any portion thereof, is threatened with an epidemic of infectious, contagious, or communicable diseases, the provincial governor may in his discretion, by proclamation, declare the province, or any part thereof, to be threatened with an epidemic and vest the provincial board of health with emergency powers to enact such emergency health ordinances

as it may deem necessary to prevent the occurrence or spread of the threatened epidemic; such ordinances to have the force and effect and to be enforced in the same manner as laws enacted by the legislative council. It is provided that all emergency health ordinances and regulations shall become null and void when the governor, by executive proclamation, shall declare that the danger of an epidemic has passed unless he shall order otherwise.

DISTRICT BOARDS OF HEALTH.

In addition to the provincial board of health, the law declares that there shall be in each district of Moro Province a district board of health, which shall consist of the district governor as president, the district secretary and where provided for by the legislative council, a third member, who shall be a duly qualified physician. In cases where the legislative council has not provided for this specified third member, the district treasurer is required to act in that capacity.

The district board of health is the direct agent of the provincial board of health even to the extent that it is required to *hold such meetings, perform such duties and exercise such powers as the provincial board of health may require.*

MUNICIPAL BOARDS OF HEALTH.

Whenever in its opinion it may be advisable, the provincial board of health may establish in any municipality of the Moro Province a municipal board of health which shall consist of the municipal president as president, the municipal secretary as secretary, and a third member to be appointed by the *provincial board of health,* who shall, when practible, be a duly qualified physician or an undergraduate of medicine (*cirujano ministrante*). If a person of such qualifications is not available, a male school teacher of the municipality may be designated.

Municipal boards of health are also agents of the *provincial board of health,* but act under the supervision of the district boards of health, and like district boards of health, they must hold such meetings, perform such duties and exercise such powers (not in excess of the powers conferred by the Philippine Commission) with reference to the health and sanitary conditions of their respective municipalities and barrios, as from time to time may be prescribed by the *provincial board of health.*

From the scheme of organization, it will be seen that the responsibility for the health service of the Moro Province lies almost entirely with the provincial board of health, to which has been given a monopoly of power, as well as a multiplicity of duties. The peculiar conditions in this province render it advisable that the directing authority, in an innovation so momentous, so easily misconstrued and so alien to the ideas

and customs of a semicivilized people, should be possessed of both legislative and executive powers, such as the provincial board of health is endowed with by virtue of its close identity with the legislative council of Moro Province.

Experience has demonstrated that it is much easier to say than to do in matters of public sanitation. With all this legal machinery and the effective scheme of organization, it has been impracticable to do much work of a permanent nature outside of Zamboanga, the capital city. In this district, alone, from July 1, 1905, to August 27, 1906, ₱5,675.99 were expended in salaries, and ₱3,639.30 for contingent expenses, which, with a similar item of ₱58.33 expended for Cotabato district, makes a total of ₱9,373.62 appropriated for the maintenance of the provincial sanitary service for that year. While the work has not been prosecuted so vigorously since the loss of the medical member of the board, yet in the municipality of Zamboanga during the calendar year ended December 31, 1907, there were made 1,929 vaccinations by the local board of health, and many public improvements inaugurated especially in the matter of the water and food supply for the municipality. These improvements are mainly due to the interest of the post surgeon who is also president of the municipal board of health, and to the efficient municipal sanitary inspector, a sergeant in the Hospital Corps of the Army.

Mention should be made also of the prompt and efficient manner in which the cholera situation when imminent or present has been handled by the medical officers of the Army throughout the Moro Province.

The interests of the public health have suffered somewhat from the wise determination of the legislative council to enforce a pay-as-you-go policy.

In the last report of Major-General Leonard Wood as governor of Moro Province, in speaking of the condition of the public health, it is stated:

> The lack of a provincial hospital is keenly felt. Thus far the military hospitals, with considerable inconvenience to themselves, have taken care of a large number of civilian sick and wounded, accidents, etc. It is hoped that funds will be available in the immediate future to commence the construction of a Provincial Hospital at Zamboanga.
>
> Vaccinators have been at work during the greater portion of the present year, and a very large number of people have been vaccinated. There have been no serious epidemics of diseases. The diseases found further north, such as amœbic dysentery and cholera, are seldom met with in this province. A few cases of smallpox have appeared from time to time among the hill tribes, but have not developed into an epidemic. The public health as a rule has been very good. The effects of this climate upon white men does not appear to be injurious. Both civilians and soldiers who take a fair amount of exercise and live a considerable portion of their time in the open air are healthy. The troops, especially, present a rugged and healthy appearance, although the large amount of field service has produce here, as elsewhere, a certain increase in the sick report. There is no reason to believe that this country can not be inhabited by white people without injurious results to their health. It will,

probably, be necessary, as everywhere else in hot countries, for white people to obtain a change of climate for a few months at an interval of four to six years, especially after middle life. Benguet, Luzon, and the neighboring country presents all the climatic advantages of the temperate zone, as do some of the high mountain areas in Mindanao. The Mindanao highlands are as yet unopened, except about Lake Lanao, but Benguet is easily reached, and the pine forests and fine bracing air are all that can be desired. The Lanao country is hardly high enough to secure an entire change.

Health of animals.—Since the people have come to understand the object of the isolation and destruction of animals for surra and glanders, and the methods proposed by the government for their preservation, there has been little or no opposition to the execution of the laws looking to the quarantining and destruction of animals suffering from surra and other infectious diseases.

General Tasker H. Bliss, the successor of General Wood, in supplementary report for a fractional part of the same year, said:

The provincial government has pushed forward vaccination as rapidly as practicable and its results are manifest in the disappearance of smallpox. Great care has been taken to prevent the introduction of cholera from infected ports in the East.

Hospitals and dispensaries are on the list of projects proposed for consideration as soon as the funds are available. In the meantime the thanks of the province are due to the army for its assistance in this respect. Indigents, and other sick and injured are treated in the military hospitals. The indigents are paid for by the province at a uniform rate. The Army surgeons serve as health officers at a small remuneration which the province will increase whenever it is able. Meanwhile, these surgeons render every assistance with the utmost willingness. The present arrangement gives us the equivalent of ten- or twelve-bed hospitals at the rate of about ₱250 each per month.

The use of these hospitals by the natives has had a wonderful effect in increasing a friendly feeling toward the government.

It may be said that outside of the municipality of Zamboanga, and even there to a large extent, public sanitation in Moro Province is dependent on the Army and Constabulary. Wherever there is an Army post there is a health officer. At Davao the Philippines Constabulary has established a hospital which is well conducted under the supervision of an officer of its medical corps. Constabulary hospitals exist in other points and are operated satisfactorily. There are Army surgeons who act as health officers at Zamboanga, Jolo, Iligan, Malabang, Parang, Cotabato and Camp Keithley, while Cagayan, Dansalan, Makar Bajanga, Coraga, Mati and Cateel are without any semblance of health organization; Dapitan, Siassi and, as stated before, Davao, are under the Constabulary.

Taking everything into consideration a good start in public sanitation has been made in the Moro Province. Future success depends upon following up the advantages already won and extending the service, gradually at first, that is, more educationally than aggressively, more by the public schools than by public force.

Besides the appropriation Acts, the following laws which either directly or indirectly concern the interest of the Bureau of Healt, were passed during the year.

Act No. 1666, passed July 2, 1907, appropriated one hundred thousand pesos for the Congressional relief fund, to be loaned under certain conditions to the provinces, and municipalities of the Philippine Islands, for the purpose of constructing artesian wells, markets, slaughterhouses, and other public works of a permanent character.

Act No. 1670, enacted July 8, 1907, authorized the board of trustees or directors of any asylum or institution in which poor children are cared for and maintained at public expense to place, with the consent of the Director of Health, any orphan or child so maintained whose parents are unknown, or, being known, are unwilling to support such child, in charge of any suitable person who may desire to have such child, and shall furnish satisfactory evidence of his ability to maintain, care for and educate such child.

The intrusting of any child to a person in the manner prescribed by law does not affect the legal status of such child or prejudice the right of any person entitled to its legal custody or guardianship.

It is provided that if the Director of Health, who is required to visit such children personally or by agent every three months, finds that any child which has been taken from any asylum or institution is not being properly maintained, cared for, and educated, he is required to place the child again in the asylum or institution from which it was taken.

Act No. 1677 enacted August 16, 1907, entitled "An Act to provide anatomical material for the advancement of medical science," provides that the body of any deceased person which is to be buried at public expense and which is unclaimed by relatives or friends for a period of forty-eight hours after death, shall be subject to the disposition of the Bureau of Health, and by order of the Director of Health and subject to such regulations as he may prescribe, and the Secretary of the Interior approve, may be devoted to the purpose of medical science and the advancement and promotion of medical knowledge and information.

The making use of the body of any deceased person for scientific investigation except for autopsy, or as provided by Act No. 1677, is prohibited by law.

Act No. 1688, enacted August 17, 1907, creates, under the heading of "Artesian wells" a permanent reimbursable appropriation to the credit of which was deposited the sum of ₱37,000. The provision was made that receipts which may accrue from Insular Bureaus, provincial and municipal governments, and other sources on account of services rendered and supplies provided in sinking artesian wells and equipping the same with the necessary pumping machinery, storage tanks, etc., necessary to provide potable water or fire protection, or both, should also be deposited to the credit of this permanent fund, to be expended under the supervision of the Director of Public Works.

Act No. 1694, enacted August 21, 1907, repealed section 14 of Act No. 309, which made all expenses incurred in the operation of vaccines and in carrying on public vaccinations in the Philippine Islands, except the salaries of the provincial and municipal boards of health, payable from the funds of the Insular Treasury. (Act 309, better known as the Compulsory Vaccination Law, was passed before the establishment of the Bureau of Science, and soon after the establishment of Civil Government. The changed conditions made it advisable

to turn over the making of vaccine to the Bureau of Science and to make the expenses of local vaccinations chargeable to the municipalities to which they pertained. Insular vaccination parties are still maintained by the Bureau of Health.)

Act No. 1704, enacted August 31, 1907, incorporated the Philippine Medical School, and vested the powers of the corporation in the board of control of the Philippines Medical School, consisting of the Secretary of Public Instruction, the Secretary of the Interior, one other member of the Philippine Commission, designated by the Governor-General, and the dean of the faculty of the school.

Act No. 1711, better known as the Leper Act, enacted September 12, 1907, empowered the Director of Health or his authorized agents to cause to be apprehended and detained, isolated, segregated or confined, all leprous persons in the Philippine Islands, and makes it the duty of all Insular, provincial or municipal official employees having police powers to assist in such duties when requested by the Director of Health or his agents.

All protests and petitions are given careful attention and if the diagnosis is questioned, no person is forcibly removed to the leper colony or other place of segregation until the diagnosis has been confirmed by bacteriological methods.

The Leper Act also makes it unlawful for any person knowingly to detain or harbor on premises subject to his control or in any manner conceal or secrete or assist in concealing or secreting any person afflicted with leprosy with the intent that such person shall not be discovered, or to assist in the support of such lepers.

The Director of Health is authorized to cause to be established hospitals and detention camps at such places as may be necessary and to regulate the admission and outgoing of voluntary helpers as well as of the patients.

Act No. 1725, enacted September 23, 1907, amended Act No. 1458, known as the Cemetery Act, by authorizing the Director of Health to grant permits for the removal of all human remains in cases where arrangements had been made to do so before the passage of the said cemetery law which prohibits disinterments until one and one-half years have elapsed from the time of burial.

Act No. 1761, entitled "An Act gradually to restrict and regulate the sale and use of opium pending the ultimate prohibition of the importation of opium into the Philippine Islands in whatever form except for medicinal purposes as provided by the Act of Congress approved March third, nineteen hundred and five, and prohibiting any person from having the possession of opium, cocaine, or alpha or beta eucaine, in any of their several forms, or any derivative or preparation of any of such drugs or substances, except for medicinal purposes," was enacted October 10, 1907. (This Act has been mentioned in connection with the opium habit in another part of this report.)

Act No. 1771, passed October 11, 1907, so amended the Cemetery Act as to permit with the approval of the Director of Health or his authorized agent the expenditure for general municipal purposes of any cemetery funds remaining on hand on the first day of January of each year in excess of the amounts expended or obligations incurred to keep in order, improve, or embellish burial grounds or cemeteries of the respective municipalities.

Act No. 1797, enacted October 12, 1907, provided that when at the request of the Governor-General, to guard civil prisoners, aid the Director of Health of the Philippine Islands, in the enforcement of sanitary regulations, municipal health ordinances and health laws, or to aid other civil authorities in the maintenance of law and order and the enforcement of their authority, officers of the United States Army and officers of the Philippine Scouts in command of

troops shall be vested, while in the performance of their duties, with the powers of peace officers.

This Act repealed Act No. 1505 which was similar in its provisions but not so broad in scope as it was passed especially to cover conditions in Mariquina with reference to the protection of the water supply.

Act No. 1809, passed February 14, 1908, appropriating the sum of one hundred thousand pesos for the relief of sufferers from public calamities and authorizing a committee composed of not to exceed seven members of the Philippine Commission to be appointed by the president thereof and seven members of the Philippine Assembly to be appointed by the Speaker thereof, to consider and act upon all petitions for the relief of sufferers from general conflagrations, typhoons, floods, earthquakes, famine, pestilence, epidemics, and other disasters which amount to public calamities.

BAGUIO HOSPITAL DIVISION.

The Baguio Hospital division includes the management of the Baguio Hospital and the sanitary supervision of the Province of Benguet. A new thirty-bed hospital has been built, consisting of two general, two detention, and two private wards, an office, pharmacy, laboratory, operating, surgical dressing, and consulting rooms, two parlors, six private rooms, and the necessary number of bath and toilet rooms. The building is constructed of Benguet pine, with metal walls and ceilings, and supplied with hot and cold water throughout. Water is pumped from a spring into a tank with a capacity of 16,000 gallons, constructed on the high ground above the hospital. The water is conducted from the tank in pipes, and has pressure enough to furnish ample protection in case of fire.

During the hot season, Benguet is to the Philippine Islands what the great mountain resorts are to the people of the United States. The climate is very favorable for convalescent patients requiring surgical attention and women awaiting confinement derive great benefit from the pure, bracing air of this region. Now since the transportation difficulty has been solved by the opening of an automobile line connecting Baguio with the railroad, an increasing number of invalids and others will take advantage of this attractive resort.

There has again been an enormous increase in the number of persons who applied for relief. Last year the number of outdoor patients was 1,371; this year the number was 2,291, or an increase of almost 82 per cent. The great majority of the persons treated were Igorots, who came not only from Benguet, but from other provinces as well. In view of the fact that these people belong to the non-Christian tribes, the civilizing influence which the hospital exerts can scarcely be estimated, and the fact that it makes largely for peace and order can not be questioned.

The highest official temperature during the year occurred on November

22, 1907, when it reached 78.8° F. The lowest official temperature was reached on January 7, 1908, when it registered 48.1° F. The highest monthly average or mean temperature was 74.85° F. in June, 1908, while the lowest monthly average or mean temperature was 53.39° F. in January of the present year.

There were 163 days on which rain fell, the total rain fall amounting to 131.09 inches, which is rather higher than usual. The rainiest month was August, and the driest February. In the Appendix of this report will be found more complete data on the meteorological conditions of this favored region.

The year has been a particularly successful one in the administration of the affairs of the division. There were 4,400 individual vaccinations performed in the province, and a large number of sanitary fixtures installed in Baguio.

BILIBID SANITATION DIVISION.

The Bilibid sanitation division of the Bureau of Health is charged with the sanitation and hygienic care of all the inmates and employees of the Insular prisons, and the running of Hospital "A" for general cases, and Hospital "B" for tubercular cases.

There were a total of 114 deaths from all causes as compared to 180 for the previous year.

The prevailing diseases in the prison general hospital during the year were: Ankylostoma, 1,774 cases; amœbic dysentery, 617 cases; malaria, 297 cases; beriberi, 113 cases; acute dysentery, 62 cases; trachoma, 53 cases; conjunctivitis, 44 cases; pneumonia, 32 cases; Asiatic cholera, 8 cases.

So far as is known, none of the beriberi cases were contracted in the prison. A large proportion of them occurred in prisoners who were suffering from the disease at the time of their admittance, having contracted the same in many cases in the smaller provincial jails.

Of the 8 cases of cholera, 3 of the patients died and 5 recovered.

Statistical tables concerning the work of this division may be found in the Appendix to this report.

IWAHIG PENAL SETTLEMENT.

The sanitary improvement which began so auspiciously since the Bureau of Health took charge of this branch of the work has continued during the year, and the following table will show more conclusively the results which have been obtained than any written statement which could be prepared:

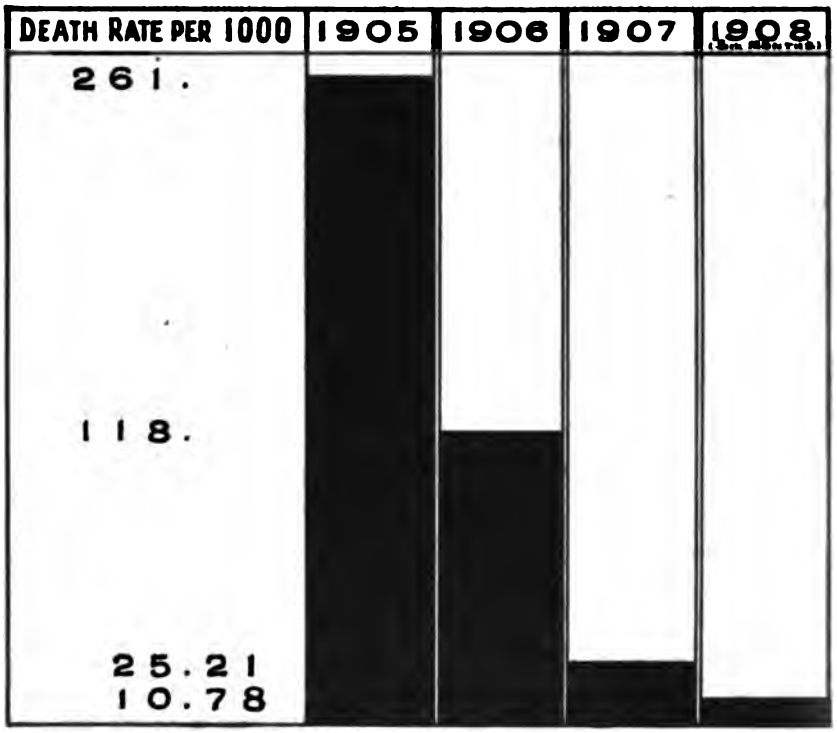

CHART SHOWING REDUCTION IN DEATH RATE AT THE IWAHIG PENAL SETTLEMENT, PALAWAN, SINCE THE BUREAU OF HEALTH TOOK CHARGE.

The drainage of the colony has now advanced sufficiently far so that the mosquitoes have disappeared almost entirely from that section of the settlement in which the houses are located. Notwithstanding this, however, the prophylactic adminstration of 5 grains of quinine daily to each inmate has been continued.

BOARD OF DENTAL EXAMINERS.

This board is organized under the provisions of Act No. 593 regulating the practice of dentistry in the Philippine Islands, and consists of three members, Dr. H. C. Strong, president; Dr. A. Vergel de Dios, member, and Dr. A. P. Preston, secretary-treasurer, who examine all applicants to practice dentistry, and exercise supervision over the interests of the profession throughout the Archipelago. During the fiscal year, there were two regular meetings and five adjourned meetings.

Eight applicants appeared before the board for examination, six of whom were graduates of reputable dental colleges, and two were *cirujano ministrantes* in dentistry from the Santo Tomás University. Of the American candidates, four were successful and two failed. Of the *cirujano ministrantes*, one was successful and one failed.

There has been no change in the membership of the board except that

in September, 1907, Dr. L. C. O'Donnel was temporarily appointed to succeed Dr. A. P. Preston, who was on leave in the United States. Upon Dr. Preston's return in February, he was reappointed to his former position, Dr. O'Donnel having in the meantime resigned.

During the year there were three complaints filed with the board against persons for the alleged violation of the Dental Law. Abuses were corrected without resort to legal procedures.

There were collected from all sources ₱140, and expended for all purposes ₱376.

BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners, composed of Dr. Eleanor J. Pond, president, Dr. Salvador del Rosario, secretary-treasurer, and Dr. Z. Laughlin, member, operating under Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, licensed during the year nineteen doctors of medicine, twenty-four licientiates of medicine, and eighteen *cirujano ministrantes*.

This board collected in fees ₱1,470, for the Government.

BOARD OF PHARMACEUTICAL EXAMINERS.

The Board of Pharmaceutical Examiners, in addition to conducting examinations and issuing certificates, is also charged in a supervisory capacity with the administration of Act No. 597 regulating the practice of pharmacy in the Philippine Islands.

The following extract from the report of the secretary-treasurer will show the principal operations of the board for the fiscal year:

During the year two examinations were held; one upon July 2, 1907, at which were present twenty-three applicants, the other held January 2, 1908, at which thirty-nine applicants presented themselves; of this number twenty-eight, or 37½ per cent, attained the required average and were issued certificates as registered pharmacists.

During the year sixty apprentice certificates and eight temporary pharmacists' certificates were issued, without examination.

During the year from all sources there were collected ₱1,960. Of this amount, ₱760 are examination fees for the examination held July 1, 1908. Treasurer's receipts on hand, ₱1,960.

The following are the salaries and fees paid to the members of this board for services during the period covered by this report:

Salary secretary-treasurer	₱300
Fees for two members for 62 applicants, at ₱4 each	576
Total	876

The board is composed of Hugo Salazar, president, Mariano Torres Pamintuan, member, and Ed. M. Chervenka, secretary-treasurer.

CIVIL HOSPITAL DIVISION.

The record of this hospital for the year shows that it has made a substantial contribution to the health of the community, and that its sphere of usefulness has not been diminished.

The following extract taken from the report of the chief of the Civil Hospital division and the statistics published in the Appendix will cover the scope of the work of this division.

Total number of patients admitted for treatment 1,487; of these there were 811 Americans and Europeans (Angle-Saxons), 622 Filipinos, and 54 Chinese, Japanese, and East Indians. There were 1,160 male patients, and 327 female patients, which may be further classified as 1,007 pay and 480 free patients; that is, emergency cases and civil employees whose salaries do not exceed ₱80 per month. Of the total there were 1,445 patients treated by the hospital staff, and 42 by outside physicians.

Total number of deaths, 35, of which number 3 were treated by outside physicians; of those treated by the hospital staff, 7 were in a dying condition when admitted to the hospital. The total percentage death rate for the twelve months was 2.25; of those treated by the hospital staff 2.21; deducting the 7 patients who were in a dying condition when admitted, the low death rate of 1.73 per cent is obtained. The death rate for those cases treated by physicians other than the hospital staff was 7.14 per cent.

The total number of days spent in the hospital by all patients was 16,446; the total number of days for those patients who were treated by the hospital staff alone was 15,571.

The following summary shows the work done by the attending physician and surgeon, with the assistance of the house surgeons:

Number of patients seen and prescribed for in office	15,245
Number of calls made in city	2,310
All patients in hospital seen twice daily	59,860
Total	77,415

The above does not include major or minor operations or confinement cases.

The total number of prescriptions filled at the hospital dispensary was 7,584, counting refills. The total number of dressings done in the operating and dressing rooms was about 14,600. There were about 1,500 minor operations performed upon patients not confined to the hospital.

CLERICAL DIVISION.

In addition to carrying on all the different lines of work which have heretofore been followed out, the enforcement of the Food and Drugs Act has thrown a large amount of additional work upon this Bureau, which has been felt principally in the clerical division.

The following extract from the report of the chief of the clerical division and cashier of the Bureau of Health upon the work of his office contains timely observations of certain conditions which not only obtain in this bureau but affect the entire service.

The constant movement of American personnel for reasons of promotion, dissatisfaction, unsuitability to the climate, has made the question of permanent office force a serious one. In most cases no sooner had an employee been trained enough to permit of his working independently than he was removed or removed himself, and the whole process began over. The question has been partly solved by the employment of Filipino clerks, but so far we have been unable to secure qualified Filipino stenographers in English although persistent efforts have been made upon the statement of other Bureaus that they have been

successfully tried. Those who have been tried have failed from lack of trained concentration and sufficient knowledge of English. This latter qualification would appear to be most difficult to attain. As typists and copyists the Filipino excels and those employed in this office, as well as the Americans, have, without exception, been faithful in attendance and necessary overtime work.

The volume of work has remained undiminished; in fact, owing to the necessity of carrying on two offices, one in Manila and one in Baguio during the Benguet season, the work was increased somewhat. It is believed that the system devised for this purpose was effective and that with thorough understanding and full report of action taken at each end of the line, it is not necessary to remove records to Baguio. If, however, it should be decided that it was desirable to move an entire office to Baguio, the system would have to be considerably changed and the success of such a plan in an emergency bureau is doubted.

It is believed that the general health of employees was as good or better during the hot season, although the hours were not changed as heretofore. If the hours could be shortened and the employees prevailed upon to spend the extra time out of doors or at physical exercise of some sort, the change would be beneficial.

From observations of the work of other bureaus and offices it is believed yet that this bureau does more economical office work than any other Bureau of the Government, counting efficiency, promptness, amount and accuracy of work.

The financial report for the year will be found in the Appendix.

CULION LEPER COLONY DIVISION.

The following extract from the report of the chief of the Culion leper colony division is a brief record of the colony for the year:

On June 30, 1907, there were 731 lepers at the colony; on the same date this year there were 1,333. During the fiscal year ending the former date, there were four collections of lepers, aggregating 734 in number transferred to the colony; during the same period ending June 30, 1908, there were eight collections, aggregating 1,554, received here as follows: September 16, 221; November 25, 158; January 24, 211; February 3, 234; February 23, 257; March 2, 148; March 16, 175; and May 10, 150. Up to June 30, 1907, 1,100 lepers had been received at the colony; by the same date this year there had been received 2,654; up to the past year these were mostly Visayans; now there is a more even representation of different races, as during the past year Bicols, Tagalogs, and Ilocanos have been admitted. The one Spaniard mentioned in last year's report still remains the only white leper, and, with two Chinamen, constitute the only foreigners at the colony.

At the colony the following improvements have been accomplished this year:

Additional quarters for about 500 lepers.—These are built mainly of bamboo and nipa, and while temporary by reason of the nature of this material, still have been constructed with hardwood framework and double floor, and except in case of fire, should prove serviceable for at least four or five years. The bamboo for these and other purposes of repair, amounting to some 5,000 pieces, were cut on Culion Island about 25 miles distant by water, and considerable delay in the construction work was caused by inability to have same towed promptly to the colony.

Excavation for new hospital.—Probably the most pressing need of the colony, especially for the rapid segregation of all the lepers, is adequate hospital accommodations. As the number of lepers rapidly increased, the present hospital soon became overcrowded. The past year has assured the fulfillment of this

urgent want and it is anticipated that before the present year has passed, a reënforced-concrete hospital of one hundred beds will be completed. This is planned to be constructed as a double hospital, a wing for each sex, with central administration, operating and sterilizing rooms; kitchen, separate baths, wash and toilet closets. The site chosen has necessitated considerable excavation of solid rock, requiring blasting and allowing but slow progress in the work at first; also the scarcity of labor and the difficulty of getting the same to work at the colony in close proximity to lepers has been no inconsiderable obstacle in the way of accomplishing this work more rapidly.

Women's hospital.—To relieve the congestion of the former hospital, another building was fitted up for the women, and the former one is now being used for the men only. This building was fitted up temporarily to meet the requirements until the new hospital is completed, and has water and sewer connections. It can accommodate some 50 patients and together both hospitals accommodate about one hundred.

Addition to kitchen.—As the colonists increased the cooking facilities became inadequate. These have been doubled by constructing another four-hole cooking furnace of reënforced concrete and roofed over with galvanized iron, replacing the nipa roof formerly covering the fire boxes and removing the danger from fire. This work was practically all done by the lepers themselves.

Buildings repaired and whitewashed or painted.

Four fire stations equipped with fire hose, ladders buckets, axes etc.

At Balala, the nonleper resident part of the colony, there has been accomplished:

Construction of house for resident physician.—This is built of strong materials, having seven rooms, including kitchen, bath and closet and supplied with modern sanitary arrangements.

Warehouse.—A reënforced-concrete warehouse 96 feet by 34 feet was constructed near the water's edge from where a stone wharf running out to deep water is being constructed. This constitutes one of the most serviceable permanent improvements and being practically fireproof, removes danger from fire and probability of loss of supplies.

New road.—A practically level road now extends from the employees' quarters at Balala to the colony; its extension to the new hospital site is contemplated.

Additional labor quarters.—This is of bamboo and nipa and of a temporary nature.

Walks and canals around employees' quarters.

Filling in sea front and constructing wharf and sea wall.

The mortality among the lepers continues high. However, considering the great number received in extremely bad condition, some dying en route, and some very soon after arrival, the fact that they may be all considered sick people and as such do not withstand well acute attacks of intercurrent diseases, the death rate does not seem exceptionally high, while it may appear so compared with that of healthy communities. The total number of deaths for the year was 958, occurring monthly as follows:

1907.		1908.	
July	23	January	87
August	38	February	96
September	42	March	116
October	51	April	86
November	90	May	114
December	97	June	118

If no more new cases were received, the death rate would rapidly fall as the number became less. Of those admitted during the first year there remain

290 and of the second year 274, and now among these a death is comparatively infrequent. Some of them seem stronger, better nourished and in better general health than when admitted, and may live a relative long time yet for lepers.

Smallpox was imported into the colony by new arrivals in February, and during March, April, and May there occurred 8, 4 and 4 cases, respectively, of a mild type, with no deaths. Every case occurred in persons not previously vaccinated or not recently successfully vaccinated, and when this was accomplished, no further cases developed after May 15.

The behavior of the colonists has been good. No serious offense has been committed during the year. There is a leper police force of fifteen men, unarmed, and under charge of an ex-constabulary inspector, who has proved a most valuable man in maintaining order and discipline. Considering the life of comparative idleness the lepers lead, that their passions and vices are not in any appreciable way curtailed by their disease and that some are pardoned prisoners for grave offenses, it is a source of satisfaction to report their conduct in this regard. Thirty-seven have at various times escaped or attempted to do so; 14 of these have returned or been returned, and of the remaining 23, a number have been located in Mindoro and Batangas, and will soon be returned. This appears to be but a natural consequence of their being isolated here and separated from home and family. It is but natural that some of the police, who are lepers themselves, should be in sympathy with their motives; and as they are the only guards to be reckoned with, it is not very difficult to accomplish their purpose. Again, formerly the colonists came from more distant localities and more difficulty of access by improvised craft; now they are arriving from Luzon, to which it is not at all impossible to make a crossing even in small craft, when the weather conditions are favorable.

There have been consumed from eight to ten beeves per week, and other rations consist of rice, mangoes, beans, fideos, fish, lard, onions, coffee, chocolate, sugar, milk, condiments, and vegetables as procurable. During this year they have been furnished with two carabaos, and with plows and other implements with which to do gardening, and given seeds, but very few are agriculturally inclined and have accomplished practically nothing in this regard.

The problem of the separation of the sexes, at one time contemplated, still remains as reported last year.

The health of some of the nonleper personnel has been but fairly good. Of the four Sisters first assigned here, two still remain, the other two having returned to Manila on account of ill health. There are now six Sisters since the increased number of lepers. The regular Chaplain is at present in Manila on leave of absence.

INSPECTION DIVISION.

The inspection division is under the supervision of the Assistant Director of Health, and includes the following sections: Medical inspections, food and drug inspections, water inspections, milk inspections, license inspections, sanitary inspections, disinfections, municipal boards of health, miscellaneous section.

During the year there were made 394,782 sanitary inspections exclusive of the special inspections; 6,482 disinfections, and 6,054 applications for license inspections. The special inspections coming under the general supervision of this division include milk, water, food and drugs, and scientific inspections as required by law for determining the cause of special diseases or mortality.

The miscellaneous section includes the inspection of churches, schools, cemeteries, morgues, markets, health stations, river boats, and public conveyances in general; also provincial sanitary inspections.

It is required by law that all jails, asylums, and other institutions in the Philippine Islands be inspected for the purpose of ascertaining the sanitary condition of the same. This work, for the most part, is done by the local officials, but as often as the exigiencies of the service will permit, the Director or Assistant Director of Health visits in person such institutions.

PROPERTY DIVISION.

In this division there were 423 requisitions received and filled during the year, as follows:

	Requisitions.
Provincial	175
Health station	75
Central Free Dispensary	14
Central office	23
San Lazaro Hospitals	16
Civil Hospital	20
Prison sanitation division	30
Board of Medical Examiners	1
St. Luke's Hospital	12
Bethany Free Dispensary	11
Philippine Medical School	4
Culion leper colony	16
Benguet Sanitarium	18
Iwahig penal colony	8

To fill these supplies, there were 112 requisitions prepared and forwarded to the Bureau of Supply, the rest of the supplies being filled from stock at this offiice.

These requisitions were divided as follows:

For the Bureau of Health (Manila)	44
For Culion Leper Colony	44
For Benguet Sanitarium	24

Of the above requisitions there were 244 shipments made, outside of delivery in the city and mail to the provinces, as follows: 161 shipments by steamships, and 83 by railway.

The total value of supplies, exclusive of subsistence, purchased during the year, amounted to ₱120,279.49, and the total amount expended was ₱105,681.65. The purchase of supplies was divided as follows:

Bureau of Supply	₱59,180.06
Bureau of Science	28,176.19
Bureau of Prisons	563.35
Bureau of Printing	11,500.17
Bureau of Public Works	37.40
Executive Bureau	20,822.32
Total purchases	120,279.49

On July 1, 1907, there were on hand 39 packages of simple remedies (selected remedies for provincial employees); during the past year there have been manufactured 107 packages, and in the same period there were expended 137 packages, leaving on hand June 30, 1908, 9 packages.

The total value of supplies sold to individuals and other bureaus amounted to ₱2,006.58.

VACCINATION SECTION.

The following figures cover the receipts and disposition of vaccine virus for the past year:

	Units.
Virus on hand July 1, 1907	3,498
Virus received during the year	2,774,950
Total virus to be accounted for	2,778,448
Quantity of virus used in Manila	91,562
Quantity of virus used in provinces	2,684,025
Quantity of virus on hand June 30	2,861
Total on hand and expended	2,778,448

The above amount of virus for the provinces was divided into 881 shipments.

As compared with the quantity of vaccine virus used last year, there have been 6,000 units more shipped to the provinces, and 15,888 units less distributed in the city of Manila.

The following figures show the receipt and disposition of the serum enumerated below:

	Bottles.
Antiseptic serum:	
On hand July 1, 1907	231
Expended during the year	2
On hand June 30, 1908	230
Plague prophylactic serum:	
On hand July 1, 1907	1,026
Expended during the year	2
On hand June 30, 1908	1,024
Sera (assorted):	
On hand July 1, 1907	110
Received during the year	147
Total to be accounted for	257
Expended during the year	136
On hand June 30, 1908	121

SANITARY ENGINEERING DIVISION.

The scope of the work of this division is very extensive, embracing in an advisory and supervisory capacity, all sanitary engineering and structural work throughout the islands.

From the regular annual report of the division, the following has been taken:

In addition to the sanitary work throughout the city of Manila, shown in tabulated form, the following projects have received attention by this division:

Bilibid Prison and Bilibid Hospital.—In July, 1907, provision was made for the disposal of surface drainage from the space contained within the new wall surrounding the addition to the prison grounds to be occupied by the new hospital.

In April, May, and June, 1908, work progressed on the new plans for a sewer system to connect with the new sanitary sewers now nearing completion, for the city of Manila.

In view of the many changes in the detailed location of the main and branch sewers, as well as changes in the location of many of the numerous closet systems themselves, entirely new plans have been drawn for this project.

The estimated cost (for material only) for these systems is as follows:

Bilibid Prison	₱26,418.67
Bilibid Hospital	5,558.47
Total	31,977.14

The above amounts are based on the assumption that water connections will be made with the city mains. If it is later decided to drill an artesian well the additional cost for the well and pump is estimated to be as follows:

Cost of well complete	₱5,000.00
Cost of pump	200.00
Total	5,200.00

The cost of tanks has not been included as it is understood that several tanks of large capacity are now on hand at Bilibid.

It is the understanding that the cost of the plumbing installations for the hospital is covered by the general appropriation for that purpose.

For the general installation an appropriation of ₱40,000 has been made by the Commission for the construction of iron beds for the prisoners and for the sewer installation, and it is understood that considerably more than half of the ₱40,000 appropriated will be available for the sewer system.

Pasig inspections.—In August a report on the sanitary condition of the town of Pasig was submitted, in connection with the monthly report. In addition a plan of a tight sanitary vault for the new high school was prepared for the guidance of the town officials.

Pasay.—In August and September, an attempt was made to improve the sanitary condition of this suburb of Manila. As it is outside of the city limits, however, the ordinary laws in force in the city of Manila could not be taken advantage of and the town officials of San Antonio, of which Pasay is a barrio, were requested and have passed certain sanitary regulations for the town.

Culion.—The construction work done at Culion has already been reported on to some extent under the heading, "Culion leper colony division." However, a few additional facts of interest are given herewith: The cost of the construction of the residence for the physician at Culion was ₱4,722.77; the cost of warehouse was ₱5,932.55.

The new road constructed from Balala to Culion has a maximum grade of 2 per cent, and is 1,700 feet long. The present minimum width is four feet, but this can be increased to any width which the future needs of the colony may require. The cost of this work was approximately ₱500.

The new hospital, referred to in Culion report, was commenced under the supervision of the chief, sanitary engineering division, during February, but on March 23, he being ordered to Manila, the work was turned over to the chief of the colony.

During March surveys were made, and in April a preliminary study of a new street and park system for Culion was submitted.

Cavite.—Plans of the following sanitary systems were sent to the District Health Officer of Cavite: Septic absorbing, discharging vault; absorbing discharging catch basin; double section, filter discharging catch basin; tight vault for houses of two stories; privy with tight vault, floor drain.

Lingayen, Pangasinan.—An estimate of the cost of installing a town well at Lingayen was submitted in May, 1908.

Provincial Jail, Tacloban, Leyte.—During October and December, 1907, plans were acted on, and recommendations were made for a provincial jail at Tacloban, Leyte. The regular design of septic vault designed for use in the city of Manila was used as a basis for a septic vault for the prison; the only change necessary was in the dimensions of the same.

Floor drain.—As an improvement on the old style bell trap cesspool a new style floor drain has been designed and approved by the Director of Health for use in the city of Manila.

In addition to the above specified work, including that mentioned in the tables published in the Appendix, a great deal of verbal information and instruction on sanitary matters has been given out by the chief of the division, it being the endeavor to aid the public in every way possible on all sanitary matters.

A tabulated record of the work done in Manila may be found in the statistical part of this report.

SAN LAZARO HOSPITALS DIVISION.

This division is made up of the cholera, plague, smallpox, leper, insane, opium habit, morgue and crematory, and miscellaneous departments.

The number of patients remaining at the close of the last annual report was 308; during the year there have been 934 admitted; 676 discharged, 13 transferred; 207 died, and 5 escaped. This leaves 347 patients to be carried over as remaining in the various departments, June 30, 1908.

Cholera hospital.—In the cholera department, there were admitted 128 male patients and 65 female patients, making a total of 193 patients, of whom 18 males and 4 females were discharged as not having cholera, thus reducing the actual number of cholera cases admitted to 171 patients, of whom 43 males and 60 females were discharged as cured, and 67 males and 39 females died, making the percentage of deaths of those admitted only about 59. Deducting the number of those who arrived at the hospital too late for treatment, the percentage of cures was about 43. The mortality in Manila during the epidemic of 1902 averaged about 80 per cent.

The treatment now employed in outline consists of:

Stimulation with strychnine sulphate, tincture of digitalis hypodermically, and the infusion of digitalis by the mouth; the latter being particularly useful in the reactionary stages of the disease, as it is both a stimulant and diuretic.

As a sedative stimulant, a tablet composed of morphine sulphate, digitalis, and hyoscine is used with good results in cases in which the condition of the stomach will tolerate this form of medication. The indication for quick relief in arterial spasm is best met by nitroglycerin.

Vomiting is treated by the administration of a tablet composed of cocaine, nux vomica, and capsicum, if the stomach is not too irritable.

Those cases in which there is marked shrinkage of the tissues, yet a fairly good heart action, are most favorable for the intravenous injection of normal salt solutions. It has been found that where the heart is very weak and the respiration labored, such treatment seems to hasten death by promoting pulmonary congestion.

During the stage of convalescence all food except milk and eggs should be withheld for a considerable time, and the closest attention paid to the kidneys.

Absolute rest is enjoined throughout the whole course of treatment.

Plague hospital.—In the plague pavilion there was only one case of this disease treated, and this was taken from the steamship *Ferd Laeisz*, which arrived here from Hongkong with the sick man aboard.

Smallpox hospital.—The admissions to this department were more numerous than during the previous year. The cases occurred mostly among the unvaccinated. Two hundred cases were admitted, of which 42 died, giving a mortality of 21 per cent. These figures, however, do not show the real incidence of the disease this year, because among them are included 20 cases of varioloid from Bilibid which were extremely mild on account of successful vaccination. By excluding these cases the mortality is 23⅓ per cent.

Leper hospital.—The following tabular statement will show the principal statistics of the leper department:

Race.	In hospital July 1, 1907.		Admitted.		Discharged.		Escaped.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Filipinos	126	88	13	6	2	1	------	3	22	15	115	75
Chinese	2	------	2	------	2	------	------	------	------	------	2	------
Total	128	88	15	6	4	1	------	3	22	15	117	75

These patients have been as contented as usual; the regular fiesta of San Lazaro took place in April, 1908, and the usual large crowd attended. The treatment with the X-ray went on throughout the year, and the patients treated either improved or remained the same. All were found positive microscopically in November, 1907; and in June, 1908, all were again found positive with the exception of one case.

Insane hospital.—At the close of the last annual report there were 76 male and 16 female insane patients remaining in the insane department. There have been admitted since that date 70 males and 12 females. Thirty-two patients have been discharged as cured and 17 have died, thus leaving in the hospital at the close of the fiscal year 105 male

patients and 20 female patients, the majority of whom are from the provinces. The city patients are usually committed to the Hospicio de San José.

The number of patients in this department was as follows:

Race.	In hospital July 1, 1907.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	5	-------	6	-------	10	-------	-------	-------	1	-------
Europeans	2	-------	-------	-------	-------	-------	-------	-------	2	-------
Filipinos	65	16	60	12	14	6	14	2	97	20
Chinese	2	-------	1	-------	-------	-------	-------	-------	3	-------
Others	2	-------	3	-------	2	-------	1	-------	2	-------
Total	76	16	70	12	26	6	15	2	105	20

There were no deaths from any unusual or epidemic diseases, most of them being old cases of simple mania or simple melancholia, merging into terminal dementia. There was one death due to pulmonary tuberculosis and one sudden death from an organic heart lesion.

Practically all cases improve after entrance, especially as regards their physical condition, on account of the regular meals and the effect of the treatment and care, and freedom from irritation. As a rule the mental condition undergoes considerable improvement also, and in many cases cures are effected. From the foregoing figures, it will be noted that the percentage of recoveries is fully as large as in similar institutions in the United States and Europe, where experts, especially trained in the treatment of nervous and mental diseases, are employed.

The majority of patients in this department would, perhaps, come under the head of harmless insane, but as there is no one to look after them outside, it is impossible to release them. On the other hand, there have been received a good many criminal insane, including a considerable number of murderers from Bilibid Prison, and while, in some cases, these patients appear normal as regards all ordinary actions, still it is a responsibility not to be undertaken lightly to set free a patient once found to be afflicted with homicidal mania.

The insane have been used in the work of the hospital throughout the year, particularly in gardening. A considerable amount of vegetables has been raised, and during the coming year this amount is expected to be largely increased. The vegetables are particularly welcome at the present time when the cost of so many articles of subsistence has advanced, making it especially hard to keep the daily average within the limit allowed.

It was mentioned in the last annual report that the new insane ward was nearly ready for occupancy. This ward was occupied in August and has proved satisfactory in every way. A few improvements have been made; a ridge of cement was laid around the bath rooms and closets to

prevent the water from running out on the floor of the wards, and grated iron doors were installed in the place of the outside doors, which were found to be not strong enough.

The female insane now occupy the ward formerly occupied by the males, and an entrance directly from the ward to the dining room has been made so that the women do not need to leave the ward for any purpose.

The women have, as usual, done a large amount of sewing for the patients in the different departments.

Opium hospital.—During February, 1908, the opium-habit patients were transferred from the San Juan de Dios Hospital to the San Lazaro Hospital. There were 383 male Chinese admitted; 365 were discharged as cured, while of the 14 male and 3 female Filipino patients received, only 2 men and 1 woman remain.

The duration of the treatment is limited by law to sixty days, but the actual time required to effect a cure in favorable cases is much less than this. These cases as a rule have been discharged as cured after being held about ten days without opium. They have practically all been released in good physical condition, and in such a state that it would be possible to quit the habit for good with comparatively little effort, if there exists a desire to do so.

Some cases have been reduced gradually, but the greater part can be separated from their opium at once.

A certain amount of stimulation is used and some bromide given. There have been no deaths and very little serious illness consequent on the withdrawal of opium.

Morgue and crematory.—In the morgue and crematory departments there were 123 autopsies, 21 cremations, 371 pauper burials, and 184 family burials.

Cremation is not popular in the Philippine Islands except among the Japanese and East Indians, who always dispose of their dead in this way. It should be stated that this method is also growing in favor among the Americans.

Miscellaneous diseases.—The classification "miscellaneous" includes tetanus, measles, and diphtheria cases. The statistics show that there were six tetanus cases, with four deaths and two recoveries. Twenty-five cases of measles with no deaths, and five cases of diphtheria with two deaths and three recoveries are registered. The embarrassment which has heretofore been felt in handling these cases will shortly be relieved by the construction of a new ward, an appropriation of ₱30,000 for this purpose having been made by the Legislature.

A large part of the opposition to the enforced hospitalization of dangerous communicable diseases has been overcome by a policy which permits the immediate relatives of patients to visit them in the hospital and in cases of serious illness to remain with them. These privileges

are subject to such restrictions and regulations as may be necessary to protect the public health. The effect has been to gain the confidence of the people and is undoubtedly aiding in preventing the hiding of cases which so largely prevailed in the early days.

DIVISION OF STATISTICS.

The division of statistics is the oldest division of the Bureau, being the successor of the office of the secretary of the board of health, and was organized by the Provost Marshal General before the establishment of civil government. This division is charged with collecting, classifying, and preparing for publication the vital statistics for the Philippine Islands.

Within the last few years a very complete system of municipal and provincial statistical reports has been introduced, but owing to the scarcity of physicians in the remote districts, the data are necessarily very defective, hence the published statistics are principally those of the city of Manila.

The provincial reports are carefully worked over and will be valuable for comparison later on. The international system of nomenclature is used exclusively and has been a valuable help in placing the work on a uniform basis.

The provincial and municipal reports are more comprehensive than would ordinarily be required, if it were not for the fact that they are maintained as much for the educational value as for statistical purposes.

The tables published in the Appendix to this report will show the scope and character of the duties of this division.

The credit of whatever has been accomplished is justly due to the chief of the division, Dr. Manuel Gomez, who has had charge of this important work, first as secretary of the Board of Health, and later on, when the Bureau was organized, as chief of the division, since the establishment of the first American board of health in the Philippine Islands.

SUMMARY.

The following are a few of the results accomplished during the year:

1. One million six hundred eighty-six thousand seven hundred and fifty-seven persons were vaccinated by the systematic method, and over 400,000 were revaccinated in communities where it was especially necessary, thus making a total of over 2,000,000 persons protected from the danger of smallpox. These figures do not include vaccinations in the Army, Navy, Constabulary, and other public services.

2. Owing to the benefits of leper segregation, at least 300 less people contracted the disease this year than formerly.

3. At least twenty-five towns have been provided with artesian wells, as the result of the constant agitation by this Bureau for better water

supplies. They will probably save at least twenty lives for each 1,000 who use the water from them.

4. The search for a remedy for the cure of leprosy has been persistently carried out during the year and apparently by the continuation of the work which has been done formerly by this Bureau, means have been found in certain select cases to at least stop the further progress of the disease in an individual, and in some cases apparently to accomplish a cure, such as has been done in the case reported under the head of "X-ray treatment of leprosy" on page 69.

5. Forty-one thousand eight hundred and ninety-six professional visits were made to poor persons in the city of Manila; 26,000 prescriptions were filled, and medical and surgical aid was given in every province throughout the Philippine Archipelago.

6. One thousand five hundred and fifty-four lepers were transferred to Culion.

7. After overcoming almost insurmountable obstacles, the first reënforced-concrete building with a floor space of 3,264 square feet was completed, and a large hospital well started at the Culion leper colony, and enough nipa buildings completed to increase the capacity of the colony from 1,000 to 1,500.

8. A large part of the work of furnishing the data for the plans for the hospitals at Baguio, at Manila, at Bilibid and at the Culion leper colony was done by this office.

9. The cholera measures which were carried out, no doubt resulted in this disease not becoming pandemic in the Philippines.

10. Medical, surgical, and administrative attendance was furnished in nine different hospitals, which have a daily average of over 1,100 patients, or 401,500 hospital days per annum, and relief furnished to at least 5,000 persons who were not required to remain in the hospital.

11. Sanitary supervision of buildings, streets, vehicles, plumbing, licenses, administration of the Food and Drugs Act, and many other things too numerous to mention engaged the attention of the Bureau every day of the year.

POLICY.

The efforts of the Bureau during the year were directed more and more toward the laying of a sound foundation upon which to erect a sanitary superstructure that will endure. The efforts of the earlier years of modern health work in the Philippines were necessarily restricted to battling with actual outbreaks of great devastating diseases like cholera, plague, and smallpox, rather than with the conditions which made these diseases possible. In other words, symptoms had to be treated rather than causes. Persons actually suffering with cholera had to be cared for rather than to install a permanent system of water supply which would make a cholera outbreak impossible at a later day. The

resources of the Islands are such at present that greater sums than those set aside during the past few years are not available. It has, therefore, become the policy of the Bureau to take each peso that becomes available for health work, and vaccinate, say forty people with it, thus protecting them against smallpox; or to free a certain number of individuals of intestinal parasites, thus saving them from many other diseases; or to invest it with others in artesian wells; rather than use it for sweeping sidewalks, penning up pigs, or cleaning back yards. All of these latter measures are highly desirable, but when there is not sufficient money to accomplish every needful thing, it would seem that there is but one course to pursue, and that is to invest it in those things which will give the greatest permanent result.

This policy has given rise to considerable adverse criticism, which time only can counteract. In the future the permanent results will speak for themselves. The achievements of the reduction in the number of cases of smallpox and leprosy, and the lowered mortality where artesian wells are in use, are already beginning to attract attention, and will soon demonstrate the superiority of this new departure over the old empirical "clean up" policy.

Briefly, then, it is believed that the direct road to the goal of a permanent low morbidity and mortality rate in the Philippine Islands is through improved water supplies, vaccination, elimination of intestinal parasites, systematic warfare against tubercle bacilli, the eradication of the malarial mosquitoes, and through improved hygiene to combat infant mortality.

RECOMMENDATIONS.

In addition to the work already being done, it is recommended:

1. That in view of the fact that the elimination of the intestinal parasites of the residents of the Philippine Islands bids fair to save a large number of lives, steps should be taken to accomplish this work and render conditions such that reinfection will not occur. To bring this about, a system for the disposal of night soil should be inaugurated, preferably by the Oriental method whereby this substance is used for fertilizing mulberry trees from which a profit may be realized instead of an additional burden upon the taxpayers.

2. That the sum of ₱25,000 be set aside for building a few small isolating pavilions and treating therein a limited number of tubercular cases, and that an outdoor dispensary be established in the city of Manila at which only persons afflicted with tuberculosis be treated. One of the principal objects of such a dispensary to be its use as a means of diffusing knowledge of the home treatment of this disease and the precautions that should be taken in order not to infect others.

3. That at least three provincial hospitals with a capacity of thirty beds each be provided; the initial cost of each to be about ₱30,000.

4. That a committee of five physicians be named to make a further study of the causes of the excessive infant mortality with the view of reducing the same.

5. That an extensive laboratory study be made of cholera, with a view of ascertaining the exact cause of the appearance and disappearance of the cholera spirilli in the Philippine Islands.

6. That the question of a law to provide for the care of the insane be considered by the next legislature.

Very respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service, Director of Health.

The SECRETARY OF THE INTERIOR,
Manila, P. I.

APPENDIX.

STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1907, TO JUNE 30, 1908.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1908.]

Population of the city of Manila.

[Health census of 1907.]

Nationality.	Population.	Nationality.	Population.
Americans	5,199	Chinese	18,028
Filipinos	195,292	All others	1,143
Spaniards	2,908		
Other Europeans	977	Total	223,542

Births reported.[1]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	58	44	102	19.61
Filipinos	4,427	4,060	8,487	43.45
Spaniards	20	20	40	13.77
Other Europeans	9	9	18	18.42
Chinese	15	10	25	1.37
All others	2		2	1.74
Total and average	4,531	4,143	8,674	38.80

[1] Incomplete.

Births, by districts.[1]

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	516	425	941	24	32	56	997
No. 2, Meisic	1,051	972	2,023	126	106	232	2,255
No. 4, Sampaloc	796	710	1,506	126	115	241	1,747
No. 5, Tondo	1,187	1,150	2,337	146	117	263	2,600
No. 6, Paco	548	503	1,051	11	13	24	1,075
Total	4,098	3,760	7,858	433	383	816	8,674

[1] Incomplete.

Births, by districts, and annual birth rate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	30,649	997	32.52
No. 2, Meisic	82,397	2,255	27.36
No. 4, Sampaloc	35,475	1,747	49.25
No. 5, Tondo	58,855	2,600	48.27
No. 6, Paco	21,166	1,075	50.78
Total and average	223,542	8,674	38.80

Births, by districts, according to number of children borne by mother.

Order in which the child was born.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.
First	233	14	646	24	463	22	516	17	241	11	2,099	88
Second	198	4	480	9	320	15	526	17	207	2	1,731	47
Third	165	8	354	10	297	15	448	6	188	4	1,452	43
Fourth	127	6	249	13	194	10	343	15	136	4	1,049	48
Fifth	84	5	179	10	149	4	250	4	96	2	758	25
Sixth	59	3	104	4	93	2	169	6	61	2	486	17
Seventh	55	2	70	6	76	2	105	7	38	4	344	21
Eigth	29	1	62	1	44	2	93	4	41	2	269	10
Ninth	17		42	1	39	5	58	4	21		172	10
Tenth	10		29	3	26	3	33	1	17		115	7
Eleventh	3	1	15		19	2	27	1	15		79	4
Twelfth	9	2	7	1	12	3	19		9	1	56	7
Thirteenth	5	1	6		8		5		2	1	26	2
Fourteenth	2		7	1	3		6		1		19	1
Fifteenth			1		3	1	2	2	2		8	3
Sixteenth	1		3				1				5	
Seventeenth			1		1		3				5	
Twentieth						1	1				1	1
Total	997	47	2,255	83	1,747	87	2,600	84	1,075	33	8,674	334

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	51	9.80	Chinese	337	18.69
Filipinos	8,469	43.36	All others	21	18.37
Spaniards	50	17.22			
Other Europeans	17	17.40	Total and average	8,945	40.01

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married	966	Married	702
Widowers	260	Widows	489
Single	848	Single	265
Boys	3,106	Girls	2,654
Condition not stated	45	Condition not stated	16
Total	5,225		4,126
Grand total			9,351

Stillbirths, 335.

Number of deaths with medical attendance	4,919
Number of deaths without medical attendance	4,432
Total	9,351

Deaths, by age, including transients.

Age.	Number.	Age.	Number.
Under 30 days	994	40 years to 50 years	509
30 days to 1 year	3,190	50 years to 60 years	438
1 year to 2 years	756	60 years to 70 years	250
2 years to 5 years	586	70 years to 80 years	181
5 years to 10 years	226	80 years to 90 years	111
10 years to 15 years	112	90 years to 100 years	35
15 years to 20 years	292	Over 100 years	19
20 years to 25 years	398	Unknown	17
25 years to 30 years	466		
30 years to 40 years	768	Total	9,351

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros	30,649	1,191	38.85
No. 2, Meisic	82,397	2,315	28.09
No. 4, Sampaloc	35,475	1,687	47.55
No. 5, Tondo	53,855	3,297	61.21
No. 6, Paco	21,166	861	40.67
Total and average	223,542	9,351	41.83

Comparative mortality from January 1, 1901, to June 30, 1908.

Month.	1901		1902		1903		1904	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	758	[1]36.25	760	[1]36.58	602	[1]28.98	796	[2]42.64
February	689	[1]36.72	706	[1]37.63	511	[1]27.23	709	[2]40.59
March	885	[1]42.66	770	[1]37.06	539	[1]25.94	751	[2]40.28
April	886	[1]44.07	1,327	[1]66.01	549	[1]27.31	748	[2]41.40
May	908	[1]43.47	1,685	[1]81.26	770	[1]37.06	766	[2]41.03
June	621	[1]30.89	1,418	[1]70.54	592	[1]29.45	800	[2]44.28
July	608	[1]29.27	2,223	[1]107.02	620	[2]33.21	866	[2]46.39
August	702	[1]33.79	1,712	[1]82.42	862	[2]46.17	1,032	[2]55.28
September	767	[1]38.15	1,182	[1]56.81	1,228	[2]67.97	1,064	[2]58.89
October	855	[1]41.16	927	[1]44.62	1,217	[2]65.19	1,018	[2]54.58
November	848	[1]42.18	1,085	[1]51.43	974	[2]53.91	957	[2]52.97
December	858	[1]41.30	758	[1]36.25	894	[2]47.89	794	[2]42.58
Total	9,375	38.30	14,451	59.04	9,358	40.27	10,301	46.88

Month.	1905		1906		1907		1908	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	685	[2]36.69	737	[2]39.47	632	[2]33.81	1,117	[2]58.87
February	608	[2]36.05	595	[2]35.28	473	[2]27.59	733	[2]41.29
March	563	[2]30.15	600	[2]32.13	464	[2]24.45	720	[2]37.94
April	580	[2]29.32	555	[2]30.27	416	[2]22.65	626	[2]34.09
May	526	[2]28.16	600	[2]32.13	462	[2]24.35	633	[2]33.34
June	593	[2]32.81	693	[2]36.72	402	[2]21.89	678	[2]36.92
July	747	[2]40.00	1,451	[2]77.72	515	[2]27.14	----------	----------
August	841	[2]45.03	1,182	[2]63.31	658	[2]34.41	----------	----------
September	1,013	[2]56.06	835	[2]46.22	768	[2]41.82	----------	----------
October	850	[2]45.51	684	[2]36.64	877	[2]46.22	----------	----------
November	944	[2]52.24	658	[2]36.14	725	[2]39.48	----------	----------
December	841	[2]45.03	597	[2]31.98	900	[2]47.43	----------	----------
Total	8,741	39.74	9,182	41.07	7,287	32.59	----------	----------

[1] Death rate computed on population of 244,732 (Health Department's census).
[2] Death rate computed on population of 219,941 (Official census, 1903).
[3] Death rate computed on population of 223,542 (Health census, 1907).

Comparative mortality with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901	2,327	42.98	2,410	43.97	2,077	37.49	2,561	46.22
1902	2,236	41.25	4,433	80.89	5,067	91.46	2,715	49.00
1903	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,982	35.64	1,848	33.72	3,468	62.59	1,934	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.42
1908	2,570	46.14	1,937	34.77	----------	----------	----------	----------

Number of deaths, with causes, occurring among permanents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)			2	1	49	25			77
4. Intermittent fever and malarial cachexia			1		78	31	44		154
4a. Malarial cachexia					6	4			10
5. Smallpox	2				29	36	2		69
6. Measles					3	2			5
7. Scarlet fever					1				1
8. Whooping cough					4	5			9
9. Diphtheria and croup					2	7			9
10. Influenza	1				6	13	7		27
12. Asiatic cholera	1		7	2	181	133	17		341
14. Dysentery	1		12		176	150	18		357
17. Leprosy					24	15			39
18. Erysipelas					3	1			4
19. Other epidemic diseases (beri-beri)	1		1		231	222	36	1	492
20. Purulent infection and septicæmia	1				8	9	4		22
22. Malignant pustule					2	1			3
26. Tuberculosis of the larynx					7	5			12
27. Tuberculosis of the lungs	1		7	1	526	425	76		1,036
28. Tuberculosis of the meninges		1	1		15	19	1		37
29. Abdominal tuberculosis					18	19			37
30. Pott's disease					1	2			3
33. Tuberculosis of other organs					2	4			6
34. General tuberculosis	1				18	15	1	1	36
35. Scrofula					1				1
36. Syphilis					6	1	6		13
39. Cancer and other malignant tumors of the buccal cavity					6	9			15
40. Cancer and other malignant tumors of the stomach and liver			1		3	2	2		8
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					1	1			2
42. Cancer and other malignant tumors of the female genital organs						11			11
43. Cancer and other malignant tumors of the breast						4			4
44. Cancer and other malignant tumors of the skin						6			6
45. Cancer and other malignant tumors of other organs or of organs not specified			4		8	4	1		17
47. Acute articular rheumatism					2	5			7
48. Chronic rheumatism and gout					28	11			39
49. Scurvy					2	2			4
50. Diabetes	1				1	1	1		4
51. Exophthalmic goiter					1	1			2
52. Addison's disease	1								1
53. Leukæmia						1			1
54. Anæmia chlorosis			1		2	15	1	1	20
55. Other general diseases					1				1
56. Acute and chronic alcoholism	1				1				2
59. Other chronic poisoning							3		3
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis				1		2			3
61. Simple meningitis			6	1	254	266	1		528
62. Progressive locomotor ataxia					1				1
63. Other diseases of the spinal cord					4	3			7
64. Congestion and hemorrhage of the brain	2		1		55	47	3		108
65. Softening of the brain			1		1	1	6		9
66. Paralysis without specified cause					4		3		7
67. General paralysis					4	3	1		8
68. Other forms of mental alienation					9	2	1		12
69. Epilepsy					3	1	2		6
71. Convulsions (under 5 years)	1				988	780	3	6	1,728
72. Tetanus			1		71	70	1		143
74. Other diseases of the nervous system	2				4	1	1		8

Number of deaths, with causes, occurring among permanents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					1	1			2
78. Acute endocarditis					6	9			15
79. Organic diseases of the heart	4		8	2	39	29	13	1	91
80. Angina pectoris					24	21			45
81. Diseases of the arteries (atheroma, aneurism, etc.)	3				10	9	1		23
82. Embolism and thrombosis			1			2			3
85. Hemorrhages					2	3			5
IV. Diseases of the respiratory system.									
88. Diseases of the larynx					3	2			5
90. Acute bronchitis					363	299	7	1	670
91. Chronic bronchitis	1				189	189	20		399
92. Broncho-pneumonia	1				30	25	1		57
93. Pneumonia	2		1	1	25	9	1		39
94. Pleurisy			1		2	1			4
95. Congestion and apoplexy of the lungs				1	12	6			19
96. Gangrene of the lungs						1			1
97. Asthma			1		10	13	3		27
98. Pulmonary emphysema			1		1	1			3
99. Other diseases of the respiratory system (phthisis excepted)					2	4			6
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1				1
101. Diseases of the pharynx					2	5			7
103. Ulcer of the stomach					4	4			8
104. Other diseases of the stomach (cancer excepted)			1		10	9	2		22
105. Diarrhea and enteritis (under 2 years)		1	1	3	136	128	3	1	273
105a. Chronic diarrhea and enteritis (under 2 years)					103	91	1	1	196
106. Diarrhea and enteritis (2 years and over)	2		1	1	142	115	1		262
107. Intestinal parasites						2			2
108. Hernias and intestinal obstructions	1				20	3	6		30
109. Other diseases of the intestines					1				1
110. Acute yellow atrophy of the liver			1						1
112. Cirrhosis of the liver					6	6			12
113. Biliary calculi					3	1			4
114. Other diseases of the liver	2		4		13	4			23
115. Diseases of the spleen					1				1
116. Simple peritonitis (nonpuerperal)					10	2			12
118. Appendicitis and abscess of the iliac fossa					8	1			9
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis		1			17	12	1		31
120. Bright's disease	1	1	1		44	51	3		101
121. Other diseases of the kidneys and their adnexa					1	1			2
122. Calculi of the urinary tract					1				1
123. Diseases of the bladder					4	2			6
127. Metritis						6			6
128. Uterine hemorrhage (nonpuerperal)						2			2
130. Other diseases of the uterus						1			1
131. Cysts and other tumors of the ovary						1			1
VII. The puerperal state.									
134. Accidents of pregnancy						4			4
135. Puerperal hemorrhage						30			30
136. Other accidents of labor						3			3
137. Puerperal septicæmia				1		34			35
138. Puerperal albuminuria and convulsions						8			8

Number of deaths, with causes, occurring among permanents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene					4	1			5
143. Furuncle					2	1			3
144. Acute abscess, phlegmon					2				2
145. Other diseases of the skin and its adnexa	1								1
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones					7	8			15
X. Malformations.									
150. Congenital malformations (stillbirths excluded)			1		7				8
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	5	2	1	3	286	201		1	499
152. Other diseases peculiar to early infancy					18	12			30
153. Lack of care					19	24			43
XII. Old age.									
154. Senile debility					54	124			178
XIII. External causes.									
155. Suicide by poison			1						1
159. Suicide by firearms					1				1
161. Suicide by jumping from high places			1						1
164. Fractures					6	1	1		8
165. Dislocations					1				1
166. Other accidental traumatisms	2		1		18	6	9		36
167. Burns and scalds					2	6			8
172. Accidental drowning	1				15	6	5		27
173. Inanition (starvation)	2				4	4			10
174. Absorption of deleterious gases (nonsuicidal)					1	1			2
175. Other acute poisonings			1			1			2
176. Other external violence					1				1
XIV. Ill-defined diseases.									
177. Dropsy					1	1			2
179. Causes of death unspecified or ill defined				1	23	10	2		36
Total	45	6	69	19	4,519	3,950	323	14	8,945
Grand total	51		88		8,469		337		8,945

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)					5	2			7
4. Intermittent fever and malarial cachexia	1				7	4	9		21
4a. Malarial cachexia					1	5			6
5. Smallpox	1				5	1			7
9a. Diphtheria	1								1
10. Influenza							1		1
12. Asiatic cholera		1			13	10			24
14. Dysentery	2				6	6			14
18. Erysipelas					1				1
19. Other epidemic diseases (beri-beri)			2		11	8	1		22
20. Purulent infection and septicæmia					4	1	1		6
26. Tuberculosis of the larynx					1				1
27. Tuberculosis of the lungs			2		20	16	1	1	40
29. Abdominal tuberculosis			1		2	3			6
34. General tuberculosis					5	2			7
36. Syphilis			1			1			2
40. Cancer and other malignant tumors of the stomach and liver					2				2
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					1				1
42. Cancer and other malignant tumors of the female genital organs						2			2
43. Cancer and other malignant tumors of the breast						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified					4				4
56. Acute and chronic alcoholism					1				1
II. Diseases of the nervous system and of the organs of special sense.									
61. Simple meningitis			1		8	3			12
64. Congestion and hemorrhage of the brain			1			1	1		3
71. Convulsions (under 5 years)					17	13			30
72. Tetanus					1	1			2
74. Other diseases of the nervous system	1								1
III. Diseases of the circulatory system.									
77. Pericarditis					2				2
78. Acute endocarditis						2			2
79. Organic diseases of the heart				1	9	2			12
80. Angina pectoris					2	2			4
81. Diseases of the arteries (atheroma, aneurism, etc.)					1				1
85. Hemorrhages							1		1
IV. Diseases of the respiratory system.									
90. Acute bronchitis					9	5			14
91. Chronic bronchitis					7	2			9
92. Broncho-pneumonia					2				2
93. Pneumonia					8				8
94. Pleurisy						1			1
95. Congestion and apoplexy of the lungs					1	1			2
97. Asthma					3	1			4
99. Other diseases of the respiratory system (phthisis excepted)					1				1
V. Diseases of the digestive system.									
101. Diseases of the pharynx						1			1
104. Other diseases of the stomach (cancer excepted)				1	2	1			4
105. Diarrhea and enteritis (under 2 years)		1			6	5	1		13
105a. Chronic diarrhea and enteritis (under 2 years)					4	3			7
106. Diarrhea and enteritis (2 years and over)					6	7			13
108. Hernias and intestinal obstructions						4			4
112. Cirrhosis of the liver					1				1
113. Biliary calculi					1				1
114. Other diseases of the liver	2		2		1				5
116. Simple peritonitis (nonpuerperal)						1			1
118. Appendicitis and abscess of the iliac fossa						1			1

Number of deaths, with causes, occurring among transients in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis	1				2	2			5
120. Bright's disease					5	1			6
122. Calculi of the urinary tract					1				1
128. Diseases of the bladder					1				1
131. Cysts and other tumors of the ovary						1			1
VII. The puerperal state.									
135. Puerperal hemorrhage						2			2
137. Puerperal septicæmia						1			1
138. Puerperal albuminuria and convulsions						2			2
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle					2		1		3
XI. Early infancy.									
151. Congenital debility, icterus and sclerena	1				1	1			3
158. Lack of care						1			1
XII. Old age.									
164. Senile debility					1	2			3
XIII. External causes.									
164. Fractures					1				1
166. Other accidental traumatisms					5				5
167. Burns and scalds					1	1			2
176. Other external violence					23				23
XIV. Ill-defined diseases.									
179. Causes of death unspecified or ill defined	1				5		1		7
Total	11	2	10	2	229	133	18	1	406
Grand total	13		12		362		19		406

Number of deaths by nationality, sex, and age.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)													1	1						1	4	1							6	5		
4. Intermittent fever and malarial cachexia													2	2							4	2							7	3		
4a. Malarial cachexia																						2							1	1		
5. Smallpox													4	4							14	23							7	6		
6. Measles													1								2	2										
7. Scarlet fever													1																			
8. Whooping cough													3	2							1	3										
9. Diphtheria and croup														1							1	5								1		
10. Influenza														1			1				2	3								2		
12. Asiatic cholera									1				1	1				1			22	18							18	7		
14. Dysentery													6	5					3		87	78					1		32	31		
18. Erysipelas													1	1															1			
19. Other epidemic diseases (beri-beri)					14	7							185	128							12	15							3	3		
20. Purulent infection and septicæmia													1																			
27. Tuberculosis of the lungs													2	2							15	14							4	7		
28. Tuberculosis of the meninges													4	6				1			3	3								1		
29. Abdominal tuberculosis													1								5	3							1			
30. Pott's disease																						1										
33. Tuberculosis of other organs																					1											
34. General tuberculosis													1	5								1							1	3		
35. Scrofula													1																			
36. Syphilis													3	2							1											
47. Acute articular rheumatism														1																		
49. Scurvy																														1		
50. Diabetes													1																			
53. Leukæmia																														1		
54. Anæmia, chlorosis																					1											
II. Diseases of the nervous system and the organs of special sense.																																
61. Simple meningitis					2	3					5		134	142					1	1	108	111	1				1		9	9		
64. Congestion and hemorrhage of the brain					2									1							1	1										
71. Convulsions (under 5 years)					186	154	2	2	1				757	626	1	4					12	13										
72. Tetanus					63	63							1	1								1					1		1			
74. Other diseases of the nervous system																													1			

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
III. Diseases of the circulatory system.																																
77. Pericarditis																					1							1				
78. Acute endocarditis																					1											
85. Hemorrhages					1																1							1				
IV. Diseases of the respiratory system.																																
88. Diseases of the larynx													2	2							1											
90. Acute bronchitis					8	11	1						306	227	2	1					54	61	1				2	2				
91. Chronic bronchitis									1				95	83							51	45					2	3				
92. Broncho-pneumonia													10	8							9	10						1				
93. Pneumonia					1				1				6								3	5										
95. Congestion and apoplexy of the lungs					9	3								1							1											
97. Asthma																						1						1				
99. Other diseases of the respiratory system (phthis excepted)						1																										
V. Diseases of the digestive system.																																
100. Diseases of the mouth and its adnexa													1																			
101. Diseases of the pharynx																					1	3						1				
104. Other diseases of the stomach (cancer excepted)						1						1	4	5								2										
105. Diarrhea and enteritis (under 2 years)					4	4				2	1	2	95	79	4	1				1	43	50										
105a. Chronic diarrhea and enteritis (under 2 years)													48	31	1						59	63		1								
106. Diarrhea and enteritis (2 years and over)																	2				108	87					14	7				
107. Intestinal parasites																						2										
108. Hernia and intestinal obstructions					3				1				3	1							2											
114. Other diseases of the liver													2																			
116. Simple peritonitis (nonpuerperal)					1																3											
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis													4	1							3	3				1		1				
120. Bright's disease														2							3	4										

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)					5	4							20	6							8	3					1		3	2		
4. Intermittent fever and malarial cachexia					6	2							8	3							12	6	1						8	7	9	
4a. Malarial cachexia													1	2								1							1			
5. Smallpox							2						5								1	1							1	1		
9a. Diphtheria																	1															
10. Influenza														1									1						1		2	
12. Asiatic cholera					10	4	1					1	16	12					1		29	22	1				4		34	19	3	
14. Dysentery					8	4							3	4					1		4	6	2		1		3		1	7	4	
17. Leprosy						1							3	5							7	2							2	2		
19. Other epidemic diseases (beri-beri)					4	2							14	9	2				2		12	12					1		12	18	3	
20. Purulent infection and septicæmia													1	1							3	2	1						1	1		
22. Malignant pustule																					1	1										
26. Tuberculosis of the larynx													2								2								1			
27. Tuberculosis of the lungs					10	11						1	49	32	1						70	70	1				2		33	64	9	1
28. Tuberculosis of the meninges							1						2	1							1	2										
29. Abdominal tuberculosis					1								2	3							1	2							2	3		
30. Pott's disease					1																											
33. Tuberculosis of other organs																						1										
34. General tuberculosis					1								1	1							3	1							5	3		
36. Syphilis													1																			
40. Cancer and other malignant tumors of the stomach and liver																													3			
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum																					1											
42. Cancer and other malignant tumors of the female genital organs																														2		
45. Cancer and other malignant tumors of other organs or of organs not specified																													1		1	
47. Acute articular rheumatism						1															1	1										
48. Chronic rheumatism and gout																													1	1		
49. Scurvy						1															1											
51. Exophthalmic goiter																														1		
54. Anæmia, chlorosis													1	1								3								2		1
59. Other chronic poisonings																															1	
II. Diseases of the nervous system and of the organs of special sense.																																
61. Simple meningitis					1								2								2	1							1			

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
VII. The puerperal state.																																
134. Accidents of pregnancy																						1										
135. Puerperal hemorrhage														4								7								9		
136. Other accidents of labor																						1										
137. Puerperal septicemia														4								8								11		
138. Puerperal albuminuria and convulsions														3								2								2		
VIII. Diseases of the skin and cellular tissue.																																
142. Gangrene																					2											
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones													1																			
XIII. External causes.																																
155. Suicide by poison																									1							
159. Suicide by firearms																												1				
164. Fractures														1							1							1				
166. Other accidental traumatisms					1								4								5	1					1		3	2	2	
167. Burns and scalds						2																										
172. Accidental drowning					2	1							3								2								1	2		
174. Absorption of deleterious gases (nonsuicidal)																												1				
176. Other external violence													2								4							8				
XIV. Ill-defined diseases.																																
177. Dropsy					1																3											
179. Causes of death unspecified or ill defined					1								3														1	3				
Total					62	45	5				1	1	175	111	4		2		5	1	206	175	8	1	2		17	4	208	195	38	2
Grand total					107		5				2		286		4		2		6		381		9		2		21		403		40	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)			1		3	1							1	3								1						1				
4. Intermittent fever and malarial cachexia	1		1		6	2	15						8	1	13						10	2	9					5	3	4	
4a. Malarial cachexia					2								1	1																		
5. Smallpox	2												1	2							1											
10. Influenza						2	1							1	2							1						1		2		
12. Asiatic cholera			1		17	13	5						16	20	4					1	18	4						7	6	3		
14. Dysentery					6	2	3		1		3		7	4	4						3	1	3					7	3	2		
17. Leprosy					6	3							3								1	1										
18. Erysipelas													1								1											
19. Other epidemic diseases (beri-beri)					8	5	6	1					1	8	13						6	4	8		1			1	3	2		
20. Purulent infection and septicæmia					2		2		1				1		1													1	2	1		
26. Tuberculosis of the larynx					1	1							1									2						1				
27. Tuberculosis of the lungs			3	1	58	49	15						75	41	16						36	39	15		1		1	43	27	11		
28. Tuberculosis of the meninges											1			1																		
29. Abdominal tuberculosis			1		3	1							1	1								3						2				
33. Tuberculosis of other organs						1																1						1				
34. General tuberculosis	1												4	1							3		1									
36. Syphilis							2								2				1		1									2		
39. Cancer and other malignant tumors of the buccal cavity																													1			
40. Cancer and other malignant tumors of the stomach and liver													1		1						1						1			1		
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum																													1			
42. Cancer and other malignant tumors of the female genital organs						4								2								1							2			
43. Cancer and other malignant tumors of the breast																													1			
44. Cancer and other malignant tumors of the skin														1								2										
45. Cancer and other malignant tumors of other organs or of organs not specified					2								1	1					1									1				
47. Acute articular rheumatism													1																			
48. Chronic rheumatism and gout						1							2								2							4	2			
49. Scurvy					1																											
50. Diabetes																														1		
54. Anæmia, chlorosis						1								1	1							1							2			
56. Acute and chronic rheumatism					1				1												1											
59. Other chronic poisonings							1																									

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis						1					1																					
61. Simple meningitis						1							1																	1		
62. Progressive locomotor ataxia																						1										
63. Other diseases of the spinal cord					1								1																1	1		
64. Congestion and hemorrhage of the brain					2	2							2	3	1				1		5	3			1				4	1	1	
65. Softening of the brain							1								1								2								1	
66. Paralysis without specified cause					1																		1									
67. General paralysis					1																											
68. Other forms of mental alienation					1								3	1	1														3			
69. Epilepsy													1		1															1		
72. Tetanus														1								1							2			
74. Other diseases of the nervous system						1			1								1												1		1	
III. Diseases of the circulatory system.																																
77. Pericarditis													2																			
78. Acute endocarditis						2							1								1	1								1		
79. Organic diseases of the heart	1			1	5	1			1				6	4	6						1		2				1		6	2	2	
80. Angina pectoris					2	4							1	2							4	1							1	2		
81. Diseases of the arteries, atheroma, aneurism, etc																	1													1		
82. Embolism and thrombosis			1																											1		
85. Hemorrhages						1									1																	
IV. Diseases of the respiratory system.																																
90. Acute bronchitis							1								2																	
91. Chronic bronchitis					1	3							2	6								2							6	7	4	
92. Broncho-pneumonia	1				1									1							1											
93. Pneumonia					5				1				2								4								1			
94. Pleurisy						1					1																					
95. Congestion and apoplexy of the lungs					1									1																		
96. Gangrene of the lungs														1																		
97. Asthma							1						2								3	1							1	1	1	
98. Pulmonary emphysema						1																										
99. Other diseases of the respiratory system (phthisis excepted)						1															1									1		

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases.																									
1. Typhoid fever (abdominal typhus)					2		2												2	1	54	27			84
4. Intermittent fever and malarial cachexia					9	2	2										1		1		85	35	53		175
4a. Malarial cachexia					1	2															7	9			16
5. Smallpox	1																3				34	37	2		76
6. Measles																					3	2			5
7. Scarlet fever																					1				1
8. Whooping cough																					4	5			9
9. Diphtheria and croup					1																2	7			9
9a. Diphtheria																	1								1
10. Influenza					2	2											1				6	13	8		28
12. Asiatic cholera			1		11	17											1	1	7	2	194	143	17		365
14. Dysentery	1		1		18	11											3		12		182	156	18		371
17. Leprosy					2	1															24	15			39
18. Erysipelas																					4	1			5
19. Other epidemic diseases (beri-beri)					19	15	3						1	1			1		3		242	230	37	1	514
20. Purulent infection and septicæmia					2	3								1			1				12	10	5		28
22. Malignant pustule					1																2	1			3
26. Tuberculosis of the larynx						2															8	5			13
27. Tuberculosis of the lungs			2		100	85	9						1				1		9	1	546	441	77	1	1,076
28. Tuberculosis of the meninges																		1	1		15	19	1		37
29. Abdominal tuberculosis					1	1													1		20	22			43
30. Pott's disease						1															1	2			3
33. Tuberculosis of other organs						1															2	4			6
34. General tuberculosis					4	2		1									1				23	17	1	1	43
35. Scrofula																					1				1
36. Syphilis																			1		6	2	6		15
39. Cancer and other malignant tumors of the buccal cavity					6	8															6	9			15
40. Cancer and other malignant tumors of the stomach and liver						2													1		5	2	2		10
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					1																2	1			3
42. Cancer and other malignant tumors of the female genital organs						2																13			13
43. Cancer and other malignant tumors of the breast						4																5			5
44. Cancer and other malignant tumors of the skin						3																6			6

45. Cancer and other malignant tumors of other organs or of organs not specified			3		7	8												4		12	4	1		21
47. Acute articular rheumatism						2														2	5			7
48. Chronic rheumatism and gout					19	7														28	11			39
49. Scurvy																				2	2			4
50. Diabetes						1											1			1	1	1		4
51. Exophthalmic goiter					1															1	1			2
52. Addison's disease	1																1							1
53. Leukæmia																					1			1
54. Anæmia, chlorosis			1		1	3												1		2	15	1	1	20
55. Other general diseases					1															1				1
56. Acute and chronic alcoholism																	1			2				3
59. Other chronic poisonings							1															3		3
II. Diseases of the nervous system and of the organs of special sense.																								
60. Encephalitis						1													1		2			3
61. Simple meningitis					3													7	1	262	269	1		540
62. Progressive locomotor ataxia					1															1	1			2
63. Other diseases of the spinal cord					1	1														4	3			7
64. Congestion and hemorrhage of the brain	1		1		32	34	1							1			2		2	55	48	4		111
65. Softening of the brain			1		1	1													1	1	1	6		9
66. Paralysis without specified cause					2		2													4		3		7
67. General paralysis					3	2	1													4	3	1		8
68. Other forms of mental alienation																				9	2	1		12
69. Epilepsy					1															3	1	2		6
71. Convulsions (under 5 years)																	1			955	798	3	6	1,758
72. Tetanus					1	2	1											1		72	71	1		145
74. Other diseases of the nervous system																	3			4	1	1		9
III. Diseases of the circulatory system.																								
77. Pericarditis																				3	1			4
78. Acute endocarditis					2	1								1						6	11			17
79. Organic diseases of the heart	2		2	1	16	14	2							1			4		3	3	48	31	13	1	108
80. Angina pectoris					13	8															26	23			49
81. Diseases of the arteries, atheroma, aneurism, etc.	1				10	9											3				11	9	1		24
82. Embolism and thrombosis																			1			2			3
85. Hemorrhages																					2	3	1		6
IV. Diseases of the respiratory system.																								
88. Diseases of the larynx																					3	2			5
90. Acute bronchitis					2	3														372	304	7	1	684
91. Chronic bronchitis					35	34	16										1			196	191	20		408
92. Broncho-pneumonia					6	2	1										1			32	25	1		59
93. Pneumonia					2	2											2		1	33	9	1		47
94. Pleurisy					2	1													1	2	2			5
95. Congestion and apoplexy of the lungs						1													1	13	7			21
96. Gangrene of the lungs																					1			1
97. Asthma			1		5	7	1											1		13	14	3		31

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.-		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Fillipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
IV. Diseases of the digestive system—Continued.																									
98. Pulmonary emphysema			1		1														1		1	1			3
99. Other diseases of the respiratory system (phthisis excepted)						1															3	4			7
V. Diseases of the digestive system.																									
100. Diseases of the mouth and its adnexa																					1				1
101. Diseases of the pharynx																					2	6			8
103. Ulcer of the stomach					1	1															4	4			8
104. Other diseases of the stomach (cancer excepted)			1		7	1													1	1	12	10	2		26
105. Diarrhea and enteritis (under 2 years)																		2	1	3	142	133	4	1	286
105a. Chronic diarrhea and enteritis (under 2 years)																					107	94	1	1	203
106. Diarrhea and enteritis (2 years and over)					9	12											2		1	1	148	122	1		275
107. Intestinal parasites																						2			2
108. Hernia and intestinal obstructions					3	5	1										1				20	7	6		34
109. Other diseases of the intestines													1								1				1
110. Acute yellow atrophy of the liver																			1						1
112. Cirrhosis of the liver					3	3															7	6			13
113. Biliary calculi					2																4	1			5
114. Other diseases of the liver					3	2											4		6		14	4			28
115. Diseases of the spleen					1																1				1
116. Simple peritonitis (nonpuerperal)					2																10	3			13
118. Appendicitis and abscess of the iliac fossæ					1																8	2			10
VI. Diseases of the genito-urinary system and its adnexa.																									
119. Acute nephritis	1				2	1											1	1			19	14	1		36
120. Bright's disease			1		27	29											1	1	1		49	52	3		107
121. Other diseases of the kidneys and their adnexa																					1	1			2
122. Calculi of the urinary tract																					2				2
126. Diseases of the bladder					2																5	2			7
127. Metritis						1																6			6
128. Uterine hemorrhage (nonpuerperal)																						2			2
130. Other diseases of the uterus						1																1			1
131. Cysts and other tumors of the ovary																						2			2
VII. The puerperal state.																									
134. Accidents of pregnancy																						4			4
135. Puerperal hemorrhage																						32			32
136. Other accidents of labor																						3			3

137. Puerperal septicæmia																			1		35				36
138. Puerperal albuminuria and convulsions																					10				10
VIII. Diseases of the skin and cellular tissue.																									
142. Gangrene					1															4	1				5
143. Furuncle					1		1													4	1	1			6
144. Acute abscess, phlegmon																				2					2
145. Other diseases of the skin and its adnexa																1									1
IX. Diseases of the organs of locomotion.																									
146. Nontuberculous diseases of the bones																				7	8				15
X. Malformations.																									
150. Congenital malformations (stillbirths excepted)												1						1		7					8
XI. Early infancy.																									
151. Congenital debility, icterus, and sclerema																6	2	1	3	287	202		1		502
152. Other diseases peculiar to early infancy																				18	12				30
153. Lack of care																				19	25				44
XII. Old age.																									
154. Senile debility					55	126														55	126				181
XIII. External causes.																									
155. Suicide by poison																		1							1
159. Suicide by firearms																				1					1
161. Suicide by jumping from high place										1								1							1
164. Fractures							1					1								7	1	1			9
165. Dislocations					1															1					1
166. Other accidental traumatisms					3	1						2				2		1		23	6	9			41
167. Burns and scalds																				3	7				10
172. Accidental drowning					2											1				15	6	5			27
173. Inanition (starvation)																2				4	4				10
174. Absorption of deleterious gases (nonsuicidal)																				1	1				2
175. Other acute poisonings																		1			1				2
176. Other external violence					2															24					24
XIV. Ill-defined diseases.																									
177. Dropsy																				1	1				2
179. Causes of death unspecified or ill-defined	1				2	2						4				1			1	28	10	3			43
Total	9		16	1	478	489	43	1			1		13	3			56	8	79	21	4,748	4,063	341	15	9,351
Grand total	9		17		967		44				1		16				64		100		8,881		356		9,351

Deaths, by occupations.

Occupation.	Number.	
	Male.	Female.
Professional:		
Architects, artists, teachers of art, etc	5	1
Clergymen, priests, nuns, etc	9	4
Engineers and surveyors	4	------
Journalists	1	------
Lawyers	2	------
Musicians and teachers of music	10	------
Nurses and midwives	1	4
Physicians and surgeons	3	------
Teachers (schools)	4	4
Others of this class	8	------
Clerical and official:		
Bookkeepers, clerks, and copyists	116	------
Bankers, brokers, and officials of companies	10	------
Collectors, auctioneers, and agents	3	------
Telegraph and telephone operators	3	------
Others of this class	3	------
Mercantile and trading:		
Apothecaries, pharmacists, etc	6	1
Commercial travelers	1	3
Merchants and dealers	66	3
Hucksters and peddlers	2	------
Shopkeepers	16	69
Others of this class	2	------
Personal service, police and military:		
Barbers and hairdressers	12	1
Janitors and sextons	6	1
Policemen, watchmen, and detectives	8	------
Soldiers, sailors, and marines	10	------
Others of this class	9	------
Laboring and servant:		
Laborers (not agricultural)	693	20
Launderers	17	174
Servants	71	28
Manufacturing and mechanical industry:		
Bakers and confectioners	7	1
Blacksmiths	13	------
Boot, shoe, and slipper makers	13	------
Brewers, distillers and rectifiers	1	------
Butchers	3	2
Manufacturing and mechanical industry—Conttnued.		
Carpenters and joiners	99	------
Cigar makers and tobacco workers	26	78
Clock and watch repairers, jewelers, etc	26	6
Compositors, printers, etc	16	1
Embroiderers (gold, silk, etc.)	2	11
Engineers and firemen (not locomotive)	29	------
Leather workers	9	------
Machinists	11	------
Masons (brick and stone)	5	------
Mill and factory operatives (textiles)	------	2
Millers (flour and grist)	1	------
Milliners	------	2
Painters, glaziers, and varnishers	25	------
Tailors, dressmakers, and seamsters	44	186
Tinners and tinware makers	2	------
Others of this class	36	3
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	26	------
Draymen, drivers, and teamsters	65	------
Farmers, planters, and farm laborers	48	5
Gardeners, florists, nurserymen, etc	2	1
Livery-stable keepers and hostlers	2	------
Lumbermen and raftsmen	2	------
Miners and quarrymen	4	------
Sailors, pilots, fishermen, and oystermen	81	2
Steam-railroad employees	1	------
Stock raisers, herders and drovers	1	------
Others of this class	5	------
All other occupations:	86	24
Total	1,792	637
Grand total	2,429	

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans.		Foreigners.		Filipinos.			
	Adults, male.	Children, male.	Adults.		Adults.		Children.	
			Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	9	1	38	8	1,017	1,204	464	344
No. 2, Meisic, Drs. F. Herrera and C. Reyes	33	------	10	------	585	333	210	146
No. 4, Sampaloc, Dr. F. Castañeda	------	------	1	------	481	882	645	608
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	1	------	------	------	632	316	162	122
No. 6, Paco, Dr. J. B. Cabarrus	------	------	------	------	280	268	202	185
Dr. Tee Han Kee:								
Station A, Meisic	1	------	------	------	31	13	1	7
Bureau of Education	------	------	------	------	66	3	------	------
Bureau of Customs	------	------	------	------	445	------	------	------
Bureau of Posts	------	------	------	------	282	------	------	------
Dr. P. Gabriel:								
Bureau of Printing	------	------	------	------	242	------	------	------
Bureau of Audits	------	------	------	------	114	------	------	------
Total	44	1	49	8	4,125	3,019	1,684	1,412

Report of sick and wounded poor attended by municipal physicians—Continued.

Health districts and physicians.	Chinese.		Total.	Cured.		Deaths.		Number of visits.
	Adults, male.	Children, male.		Male.	Female.	Male.	Female.	
No. 1, Intramuros, Dr. V. Cavanna	------	------	3,085	896	894	41	46	10,078
No. 2, Meisic, Drs. F. Herrera and C. Reyes	43	------	1,310	569	336	20	17	4,979
No. 4, Sampaloc, Dr. F. Castañeda	1	------	2,618	221	250	64	62	3,479
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	19	------	1,252	269	179	46	39	5,498
No. 6, Paco, Dr. J. B. Cabarrus	1	------	936	253	240	36	40	2,506
Dr. Tee Han Kee:								
Station A, Meisic	327	6	386	217	10	8	------	2,251
Bureau of Education	------	------	69	19	------	------	------	377
Bureau of Customs	------	------	445	96	------	------	------	4,187
Bureau of Posts	------	------	282	67	------	------	------	2,601
Dr. P. Gabriel:								
Bureau of Printing	1	------	243	53	------	------	------	4,014
Bureau of Audits	------	------	114	23	------	------	------	1,931
Total	392	6	10,740	2,673	1,909	210	204	41,896

Report of prescriptions filled at the municipal dispensary.

Health Districts.	Americans.				Foreigners, adults.		Filipinos.				Chinese.		Total.
	Adults.		Children.				Adults.		Children.		Adults, male.	Children, female.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
No. 1, Intramuros	1,500	483	------	2	61	4	4,142	3,553	1,076	693	15	1	11,530
No. 2, Meisic	86	------	------	------	48	------	1,912	967	437	307	14	------	3,721
No. 4, Sampaloc	12	3	2	------	8	------	2,015	1,301	1,514	739	4	------	5,598
No. 5, Tondo	31	1	------	------	------	------	1,421	970	278	274	------	------	2,975
No. 6, Paco	272	50	------	------	------	------	1,020	627	486	469	2	------	2,926
Total	1,851	537	2	2	117	4	10,510	7,418	3,791	2,482	35	1	26,750

Permits issued for the disposition of dead bodies.

Disposition.	Number.	Disposition.	Number.
Buried.		Buried—Continued.	
Norte Cemetery	5,623	San Pedro Macati Cemetery	10
Paco Cemetery (3 fœtuses)	297	Otherwise disposed of:	
Santa Cruz Cemetery	98	Embalmed for shipment to United States	18
Binondo Cemetery	324	Cremated	22
Balicbalic Cemetery	1,392	Transferred to provinces	26
Maytubig Cemetery	285	Preserved in alcohol (fœtuses)	3
Malate Cemetery (1 fœtus)	548	Remaining in Malecon Morgue	12
Pandacan Cemetery, Roman Catholic	72		
Pandacan Cemetery, Filipino Church	207	Total	9,709
Santa Ana Cemetery	377		
Chinese Cemetery	405		

NOTE.—This total includes 21 dead bodies brought from the provinces, 2 remains unearthed, and 335 fœtuses. The 4 fœtuses appearing in parenthesis were buried together with their mothers.

Disinterments.

Cemetery.	Number.	Cemetery.	Number
Paco	154	Tondo	27
Norte	11	Pandacan, Roman Catholic	1
Loma	5	Santa Ana	3
Santa Cruz	59	Sampaloc	2
Binondo	36	Maytubig	1
Balicbalic	16		
Malate	18	Total	413
Chinese	80		

General inspection of houses, premises, vaults, etc., with improvements ordered, disinfected, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors.

1.	Inspections of houses by the sanitay inspectors	33,441
2.	Reinspections of houses for verification of work ordered	3,659
3.	Inspections of houses by assistant sanitary inspectors and sanitary policemen	279,449
4.	Reinspections of houses by assistant sanitary inspectors and sanitary policemen	78,283
5.	Houses ordered cleaned (written)	740
6.	Houses ordered cleaned (verbal)	50,126
7.	Houses cleaned	60,759
8.	Houses ordered whitewashed and painted	887
9.	Houses whitewashed and painted	114
10.	Number of houses disinfected	6
11.	Number of houses recommended condemned and removed	7
12.	Number of houses condemned and removed	6
13.	Number of localities where "squatters" are located	0
14.	Number of samples of water, foods, etc., sent to laboratory	1,132
15.	Number of reports for same	808
16.	Number of fire plugs opened or closed for sanitary purposes	0
17.	Number of hydrants recommended reopened	0
18.	Number of houses where garbage has not been removed for 2 days	885
19.	Number of persons reported sick to municipal physician	6,883
20.	Cesspools and vaults ordered cleaned	2,606
21.	Cesspools cleaned	1,829
22.	Yards ordered cleaned	25,807
23.	Yards cleaned	25,404
24.	Yards ordered repaired (repaved, etc.)	1
25.	Yards repaired	1
26.	Number of cholera cases reported by sanitary inspectors	71
27.	Number of cholera cases found alive	191
28.	Number of cholera cases found dead	234
29.	Number of orders issued during the fiscal year	437
30.	Number of orders complied with during the fiscal year	203
31.	Number of orders awaiting action	1,261
32.	Number of orders pending in court	9
33.	Average number of food tiendas in the districts	2,743
34.	Number of persons convicted for violation of food prohibition orders	685
35.	Average number of regular inspectors on duty	12
36.	Average number of regular emergency inspectors on duty	10
37.	Number of leprosy cases sent to Culion leper colony	20
38.	Number of plague cases reported	0
39.	Number of smallpox cases reported	181
40.	Average number of houses in which traps are set	905
41.	Average number of houses in which bane is placed	21
42.	Average number of traps set	829
43.	Average number of plates with ratsbane placed	18
44.	Rats caught by rat catchers	36
45.	Rats caught by traps	778
46.	Rats caught by poison	14
47.	Rats purchased	10
48.	Average number of rats catchers employed	0
49.	Number of persons vaccinated during the year	27,415

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Abscess of the neck	2	-------	Pneumonia	1	-------
Acute gastro-enteritis	1	-------	Rinderpest	64	-------
Acute laryngitis	1	-------	Scarlet fever	1	4
Amœbic dysentery	1	-------	Septicemia	1	-------
Anthrax	6	4	Smallpox	184	1,275
Beri-beri	80	-------	Suspected cholera	159	822
Cancer	1	-------	Suspected measles	1	-------
Cholera	604	3,494	Suspected smallpox	3	17
Cholera infantile	1	2	Suspected typhoid fever	4	10
Diphtheria	14	57	Syphilis	1	-------
Dysentery	4	3	Tetanus	1	5
Erysipelas	3	12	Tuberculosis	344	-------
Exhumations	418	-------	Typhoid fever	28	88
Glanders	18	-------	Undetermined	4	20
Grippe	5	-------	Varicella	23	132
Foot-and-mouth disease	34	7	Varioloid	12	51
Insanitary condition	4,385	63	Vermin	1	-------
Leprosy	19	47	Others	3	-------
Malignant pustule	1	15			
Measles	52	58	Total	6,482	6,196
Mosquito larvæ	2	-------			

Report of operations of the pail-conservancy system.

PAIL COLLECTIONS.

Where cleaned.	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.
Private houses	3,811	1,626	1,999	641,637
Public buildings	114	50	301	61,929
Midden sheds	82	76	1,613	418,562
Military buildings	26	8	39	19,210
Mariquina	136	125	150	54,770
Total	4,169	1,885	4,102	1,191,108

VAULTS CLEANED.

Where cleaned.	Cleaned by odorless excavators.		
	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	1,863	2,876	1,488,000
Public buildings	102	1,367	683,500
Military buildings	17	136	68,000
Total	1,982	4,379	2,189,500

Report of crematories.

Disposition.	Crematories.		Total.	Disposition.	Crematories.		Total
	Palomar.	Paco.			Palomar.	Paco.	
Animals cremated:				Animals cremated—Cont'd.			
American horses	218	4	222	Deer	31	1	32
American mules	61	------	61	Rats	121	------	121
Australian horses	41	------	41	Steers	3	------	3
Chinese horses	30	------	30				
Chinese mules	3	------	3	Total	8,843	183	9,026
Native ponies	434	8	442				
Carabaos	317	22	339	Loads cremated:			
Cows	777	34	811	Garbage	582	4	586
Calves	137	------	137	Trade refuse	516	12	528
Dogs	2,111	75	2,186	Organic matter	1,019	99	1,118
Goats	63	2	65	Market refuse	223	13	236
Cats	199	------	199	Beach refuse	241	------	241
Sheep	9	------	9	Slops	1,589	23	1,612
Monkeys	30	------	30	Condemned goods	455	30	485
Fowls	2,504	------	2,504				
Pigs	1,693	37	1,730	Total	4,625	181	4,806
Domestic birds	61	------	61				

Report of Malecon Morgue.

Disposition of dead bodies.	Number.
Buried by family	26
Buried by city	348
Transferred to San Lazaro Morgue	5
Remaining in morgue	12
Total	391

Report of action taken on applications for licenses.

Kind of license applied for.	Approved.	Disapproved.	Total acted upon.	Kind of license applied for.	Approved.	Disapproved.	Total acted upon.
Liquor:							
First-class bars	58		58	Laundries	13	1	14
Second-class bars	67	2	69	Tattooers	7		7
First-class bars and restaurants	30	1	31	Dance halls	20	2	22
Second-class bars and restaurants	22		22	Theaters	14		14
Wholesale	32		32	Billiard and pool tables	139	3	142
Groceries	76		76	Pawnbrokers, junk shops, and second-hand goods	38	3	41
Theaters	1		1	Ferryboats	3		3
Druggists	3		3	Carrillos	13		13
Hotels	22		22	Candies, sweetmeats, cakes, etc	5		5
Restaurants	584	80	664	Cinematographs	3		3
Boarding houses	15	2	17	Ice cream	4	7	11
Lodging houses	11		11	Slot machines	3		3
Distilleries	4		4	Dyeing and cleaning cloths	14		14
Native wines	2,258	35	2,293	Whole stock yard	1		1
Breweries	1		1	Shooting gallery	1		1
Auctioneers	4		4	To sell sugar cane		1	1
Clubs	28		28	Bill posting and street advertising agency	3		3
Cooked foods, fruits, vegetables, and soft drinks	2,105	85	2,190	Foundry	5		5
Bakeries	4		4	Public warehouse	1		1
Manufactures	159	18	177	Three additional vehicles	1		1
Livery stables	12		12				
Barber shops	280	5	285	Total	6,054	245	6,309

Report of medical inspection of schools as prepared by Dr. Anna D. Peck, medical inspector.

	Boys.	Girls	Total	Percentage.
Total inspected	5,459	1,860	7,319	
Defective vision:				
Myopia	1,716	652	2,368	32
Astigmatism	2,618	831	3,449	47
Strabismus	8	1	9	
Amblyopia	8		8	
Corneal defects	7		7	
Diseased lids	906	296	1,202	17
Other eye affections—				
Occlusion of lachrymal duct		1	1	
Sarcoma of cornea	2		2	
Defective hearing	426	90	516	7
Dental caries	1,946	1,131	3,077	42
Excessive adenoid tissue tonsils, pharynx, and nostrils	1,075	483	1,558	21
Anemia	507	196	703	10
Dermatoses:				
Acne	311	55	366	5
Pinta	67	31	98	1
Tinea imbricata	392	86	478	6
Tinea circinata	22	6	28	6
Tinea tonsurans	1		1	
Eczema	5	2	7	
Smallpox pitted	1,104	314	1,418	20
Deformities:				
Talipes varus		1	1	
Scoliosis	2		2	
Absence of limb	2		2	
Harelip and cleft palate	3	1	4	
Gingivitis	1		1	
Cervical tumor	1		1	
Otitis media	1		1	
Chronic ulcers	1	2	3	
Lame from birth	1		1	

Reports received of lepers living in the various provinces in the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	3	2	------	------	2	1	1	1	------	------	5
Albay	do	2	3	------	------	2	2	------	1	------	------	5
Bataan	do	16	8	1	------	9	2	4	3	2	3	24
Batangas	do	------	------	------	------	------	------	------	------	------	------	5
Benguet[1]	do	------	------	------	------	------	------	------	------	------	------	6
Bulacan	do	30	17	------	1	17	9	10	5	3	2	47
Cagayan	do	39	41	1	------	13	15	21	13	4	13	80
Cavite	do	51	28	3	2	28	19	18	5	2	2	79
Cebu	do	------	------	------	------	------	------	------	------	------	------	50
Cullon	(2)	840	493	151	71	391	238	256	139	42	45	1,333
Ilocos Norte	Filipino	------	------	------	------	------	------	------	------	------	------	128
Ilocos Sur	do	------	------	------	------	------	------	------	------	------	------	7
Iloilo	do	7	5	1	------	4	2	2	2	------	1	12
Isabela	do	8	2	------	------	2	------	6	2	------	------	10
La Laguna	do	30	18	------	5	16	8	11	3	3	2	48
Lepanto-Bontoc	do	16	13	------	------	11	9	4	4	1	------	29
Misamis[1]	do	43	21	4	------	20	13	17	6	2	2	64
Nueva Ecija[1]	do	32	15	1	------	11	4	16	8	4	3	47
Occidental Negros	do	1	1	------	------	1	1	------	------	------	------	2
Oriental Negros	do	1	------	------	------	1	------	------	------	------	------	1
Pampanga	do	16	7	2	1	5	2	6	3	3	1	23
Pangasinan	do	44	27	1	1	11	6	21	14	11	6	71
Rizal	do	41	25	4	3	28	7	14	15	------	------	66
Tarlac	do	24	14	------	1	4	5	18	8	2	------	38
Tayabas	do	16	4	2	------	7	2	7	2	------	------	20
Union	do	35	14	------	------	10	7	19	5	6	2	49
Zambales	do	21	26	------	------	2	6	14	11	5	9	47
San Lazaro Hospital	(3)	117	75	15	10	58	31	35	20	9	14	192
Total		1,433	859	186	95	648	389	500	270	99	105	2,488

[1] Revised report not received.
[2] Filipinos, 1,330; Chinese, 2; Europeans, 1; total, 1,333.
[3] Filipinos, 190; Chinese, 2; total, 192.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	16	7	------	------	14	3	2	1	------	3	23
Albay	do	30	50	1	------	20	29	7	14	2	7	80
Ambos Camarines	do	41	45	------	1	29	31	10	9	2	4	86
Antique	do	30	35	------	------	21	19	8	12	1	4	65
Bataan	do	16	11	------	------	7	4	8	1	1	6	27
Batangas	do	59	47	1	------	42	32	13	6	3	9	106
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	37	24	------	------	21	13	12	6	4	5	61
Cagayan	do	17	15	------	------	12	8	3	4	2	3	32
Capiz	do	65	68	------	1	44	30	14	18	7	19	133
Cavite	do	38	33	------	------	22	21	11	7	5	5	71
Cebu	do	177	109	23	16	128	75	24	9	2	9	286
Ilocos Norte	do	70	28	------	------	54	16	12	9	4	3	98
Ilocos Sur	do	88	49	1	------	63	32	18	14	6	3	137
Iloilo	do	85	68	1	------	64	40	14	15	6	13	153
Isabela	do	9	6	------	------	4	1	5	5	------	------	15
La Laguna	do	43	41	------	------	26	20	13	8	4	13	84
Lepanto-Bontoc	do	2	3	------	------	2	2	------	1	------	------	5
Leyte[1]	do	34	17	3	------	27	13	3	4	1	------	51
Masbate[1]	do	7	6	1	1	5	5	1	------	------	------	13
Mindoro[1]	do	9	7	------	------	8	4	1	2	------	1	16
Misamis	do	69	64	4	------	46	35	14	17	5	12	133
Nueva Ecija[1]	do	22	23	------	1	18	13	3	7	1	2	45
Nueva Vizcaya[1]	do	4	5	------	------	4	1	------	3	------	1	9

[1] Revised report not received.

Reports received of insane persons living in the various provinces of the Philippine Islands—Continued.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Occidental Negros	Filipino	60	37	------	------	42	19	15	11	3	7	97
Oriental Negros	do	64	47	------	------	49	38	11	4	4	5	111
Pampanga	do	40	31	------	------	28	15	12	8	------	8	71
Pangasinan	do	98	83	2	------	58	39	30	31	13	13	181
Rizal	do	39	22	------	------	29	16	5	3	5	3	61
Romblon	do	4	------	------	------	2	------	2	------	------	------	4
Samar[1]	do	32	28	------	------	24	19	4	4	4	5	60
Sorsogon	do	90	70	2	2	67	50	20	9	1	9	160
Surigao[1]	do	9	10	------	------	5	6	2	2	2	2	19
Tarlac	do	9	8	------	------	4	5	5	2	------	1	17
Tayabas	do	120	105	5	3	88	72	23	18	4	12	225
Union	do	42	32	2	5	18	15	17	11	5	1	74
Zambales	do	8	9	------	------	7	3	1	3	------	3	17
Hospicio de San Jose[2]	do	62	67	------	------	------	------	------	------	------	------	129
San Lazaro Hospital	(3)	105	20	------	------	69	11	27	7	9	2	125
Total		2,029	1,610	57	37	1,375	967	420	330	115	209	3,689

[1] Revised report not received.
[2] Supported by the Government.
[3] American, 1; Europeans, 2; Filipinos, 117; Chinese, 3; others, 2; total, 125.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Maried.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra[1]	Filipino	44	55	2	------	10	15	18	22	14	18	99
Albay[1]	do	365	301	73	67	177	150	84	47	31	37	666
Ambos Camarines[1]	do	136	116	8	16	64	46	42	19	22	35	252
Antique[1]	do	72	59	9	4	28	23	20	10	15	22	131
Bataan	do	19	16	------	------	9	10	5	2	5	4	35
Batangas[1]	do	92	88	15	7	32	38	32	10	13	33	180
Bohol	do	211	160	37	16	109	82	47	29	18	33	371
Bulacan[1]	do	122	82	14	6	44	35	37	17	27	24	204
Cagayan[1]	do	51	64	3	4	15	14	18	13	15	33	115
Capiz[1]	do	108	109	7	5	30	39	43	17	28	48	217
Cavite	do	74	47	6	5	25	18	29	8	14	16	121
Cebu	do	344	294	40	22	152	133	108	58	46	81	638
Ilocos Norte[1]	do	90	107	5	1	21	36	37	18	27	52	197
Ilocos Sur[1]	do	114	132	13	15	38	37	40	29	23	51	246
Iloilo[1]	do	229	235	28	14	92	89	69	31	40	101	464
La Laguna	do	77	49	12	4	25	18	24	10	16	17	126
Leyte[1]	do	326	195	64	22	168	95	57	29	37	49	521
Masbate[1]	do	32	35	2	2	14	13	12	7	4	13	67
Misamis[1]	do	71	48	6	4	43	21	14	12	8	11	119
Nueva Ecija[1]	do	43	42	3	3	16	13	12	9	12	17	85
Occidental Negros	do	165	104	5	6	54	30	46	24	60	44	269
Oriental Negros[1]	do	142	103	14	15	57	34	36	15	35	39	245
Pampanga	do	92	70	11	9	45	30	26	11	10	20	162
Pangasinan[1]	do	166	183	12	15	63	47	64	43	27	78	349
Rizal	do	99	77	1	2	40	30	42	16	16	29	176
Romblon[1]	do	33	27	6	2	11	14	11	8	5	3	60
Samar[1]	do	133	69	------	------	67	29	32	20	34	20	202
Sorsogon	do	202	123	27	17	118	77	46	18	11	11	325
Surigao[1]	do	37	26	6	2	14	6	12	12	5	6	63
Tarlac[1]	do	47	36	1	1	17	10	22	8	7	17	83
Tayabas[1]	do	101	84	------	------	------	------	------	------	------	------	185
Zambales	do	59	46	3	2	19	9	21	14	16	21	105
Union[1]	do	9	4	------	------	5	1	3	1	1	2	13
Total		3,905	3,186	433	288	1,622	1,242	1,107	587	642	985	7,091

[1] Revised report not received.

Report of systematic vaccinations.

Province.	1907					
	July.	August.	September.	October.	November.	December.
Albay	33,722	22,760	33,797	28,459	30,116	14,941
Bohol	21,516	17,852	17,659	20,108	12,844	15,705
Bulacan	17,501	11,094	16,884	18,766	7,487	14,624
Capiz	17,184	12,241	6,884	12,506	22,997	18,479
Iloilo	13,687	13,854	20,889	25,820	17,629	17,723
Occidental Negros	15,858	19,226	29,414	7,217	9,814	14,804
Nueva Ecija	10,531	12,076	8,927	8,380	9,906	10,825
Pangasinan	71,452	51,007	49,744	505	----------	----------
Sorsogon	18,249	----------	----------	----------	----------	6,518
Tarlac	14,788	20,004	20,080	26,058	28,256	16,257
Tayabas	24,379	20,199	8,592	11,608	----------	----------
Surigao	----------	----------	----------	----------	----------	----------
Ambos Camarines	----------	----------	----------	----------	----------	----------
Lepanto-Bontoc	----------	----------	----------	----------	----------	----------
Total	258,867	199,813	212,820	154,417	139,049	129,376

Province.	1908						Total.
	January.	February.	March.	April.	May.	June.	
Albay	33,187	29,180	----------	11,659	17,127	----------	254,948
Bohol	6,063	----------	----------	----------	----------	----------	111,747
Bulacan	14,946	10,864	12,444	(1)	9,378	(1)	128,488
Capiz	16,892	18,801	18,240	32,410	11,891	(1)	183,465
Iloilo	21,675	21,475	24,878	27,965	19,754	(1)	224,344
Occidental Negros	20,709	11,243	18,848	22,312	16,024	(1)	184,969
Nueva Ecija	9,170	5,978	11,052	(1)	(1)	6,316	92,656
Pangasinan	----------	----------	----------	----------	----------	----------	172,708
Sorsogon	10,787	----------	----------	----------	----------	----------	35,504
Tarlac	287	----------	----------	----------	----------	----------	125,725
Tayabas	----------	----------	----------	----------	----------	----------	64,778
Surigao	9,589	8,709	11,184	(1)	9,949	(1)	39,431
Ambos Camarines	----------	----------	31,362	10,645	----------	----------	42,007
Lepanto-Bontoc	----------	9,993	5,511	4,993	5,560	(1)	26,057
Total	143,195	115,788	127,514	109,984	89,678	6,316	1,686,767

[1] Reports not received.

Amount of vaccine virus distributed by the Bureau of Health.

	Units.
Number on hand July 1, 1907	3,498
Received from the Bureau of Science	2,774,950
Total to be accounted for	2,778,448
Distributed as per itemized statement	2,775,587
Remaining on hand June 30, 1908	2,861

Places at which vaccine virus was distributed.

Provinces:	Units.
Albay	219,180
Ambos Camarines	114,200
Bataan	4,300
Batangas	20,200
Benguet	5,830
Bulacan	132,520
Cagayan	4,200
Capiz	316,960
Cavite	13,330
Cebu	360,000
Cullon	3,200
Ilocos Norte	7,000
Ilocos Sur	15,200
Iloilo	590,000
Isabela	1,000
La Laguna	36,000
Lepanto-Bontoc	32,000
Leyte	25,000
Masbate	700
Nueva Ecija	107,760
Nueva Vizcaya	1,500

Provinces—Continued.	Units.
Palawan	400
Pampanga	42,020
Pangasinan	267,685
Rizal	23,140
Samar	25,000
Sorsogon	25,800
Surigao	65,000
Tarlac	147,200
Tayabas	60,400
Union	17,200
Zambales	100
Total	2,684,025
Manila:	
Health districts	74,900
Other institutions	16,662
Total	91,562
Grand total	2,775,587

Report of sera.

	Anti-pestic.	Plague prophy-lactic.	Assorted.
Bottles on hand at the beginning of the year	231	1,026	110
Received from the Bureau of Science			82
Total to be accounted for	231	1,026	192
Issued	1	2	71
Total bottles at the end of the year	230	1,024	121

Smallpox and plague[1] report for Manila.

Nationality.	Smallpox.			
	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	7	2	3	
Filipinos	113	84	34	37
Foreigners	2	1		
Chinese	4		2	
Total	126	87	39	37

District and age.	Smallpox.	
	Cases.	Deaths.
Health districts:		
No. 1, Intramuros	20	7
No. 2, Meisic	76	23
No. 4, Sampaloc	14	7
No. 5, Tondo	96	35
No. 6, Paco	7	4
Total	213	76
Ages:		
Under 1 year	11	6
1 year to 10 years	114	51
10 years to 20 years	43	7
20 years to 30 years	29	5
30 years to 40 years	12	5
40 years to 50 years	3	1
Over 50 years	1	1
Total	213	76

[1] No cases of plague.

Number of cases found alive	176
Number of cases found dead	37

NOTE.—Two of the deaths are outside cases brought to San Lazaro Hospital.

Cholera report, city of Manila.

Nationality.	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	8	3	1	1
Filipinos	225	161	194	143
Foreigners	11	2	7	2
Chinese	18		17	
Total	262	166	219	146

District and age.	Cases.	Deaths.
Health districts:		
No. 1, Intramuros	79	66
No. 2, Meisic	138	115
No. 4, Sampaloc	78	63
No. 5, Tondo	102	91
No. 6, Paco	36	30
Total	428	365
Ages:		
Under 1 year	1	1
1 year to 10 years	72	66
10 years to 20 years	56	44
20 years to 30 years	143	118
30 years to 40 years	84	78
40 years to 50 years	42	35
Over 50 years	30	28
Total	428	365

Number of cases found alive	186
Number of cases found dead	242
Total	428

NOTE.—Two of the deaths are cases from Pangasinan Province.

Cholera in the provinces.

Towns.	Cases.	Deaths.	Towns.	Cases.	Deaths.
Pangasinan:			Pangasinan—Continued.		
Bautista	155	117	Santo Tomas	1	1
Calasiao	276	195			
Dagupan	423	350	Total	2,826	1,815
Mangaldan	582	298	Per cent of deaths		64.22
San Carlos	356	236			
San Jacinto	133	74	Leyte:		
Pozorrubio	102	41	Mandaon	58	42
Malasiqui	83	66	Carigara	86	77
Balungao	98	58	Barugo	10	10
Binalonan	189	117			
Manaoag	95	56	Total	149	129
Bayambang	98	80	Per cent of deaths		85.57
Lingayen	22	13			
Urdaneta	10	4	Capiz:		
San Fabian	4	4	Sapian	40	29
Alaminos	1		Dumalag	2	1
Asingan	33	19	Ibisan	51	47
San Manuel	25	11	Pilar	2	1
Bolinao	1	1	Capiz	233	217
Tayug	14	5	Dao	8	7
Santa Maria	32	14	Panay	226	120
Natividad	4	4	Panitan	46	29
Binmaley	8	6	Pontevedra	52	49
Santa Bárbara	41	29	Jamindan	1	1
Agno	29	14	Mambusao	12	7
Sual	3	3			
San Nicolás	3	2	Total	678	508
Mangatarem	1		Per cent of deaths		81.42
Villasis	4	2			

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.
Bataan:		
Orion	2	2
Balanga	1	
Orani	6	7
Abucay	8	2
Dinalupijan	11	9
Total	28	20
Per cent of deaths		86.95
Bulacan:		
San Rafael	1	
Bocaue	34	24
Bulacan	14	16
Hagonoy	30	25
Malolos	18	11
Paombong	20	14
San Miguel	29	24
Quingua	5	5
Calumpit	16	5
Baliuag	10	7
Total	177	131
Per cent of deaths		74.01
Nueva Ecija:		
Cuyapo	1	1
Total	1	1
Per cent of deaths		100.00
Cavite:		
Bacoor	4	4
San Roque	2	1
Cavite	20	19
Total	26	24
Per cent of deaths		92.30
La Laguna:		
San Pablo	1	1
Pagsanjan	2	2
Santa Cruz	1	
Total	4	3
Per cent of deaths		75.00
Pampanga:		
San Luis	2	2
Mexico	2	2
Minalin	14	13
San Fernando	15	14
Santa Rita	8	7
Sexmoan	56	50
Bacolor	79	60
Betis	13	12
Angeles	3	3
Floridablanca	8	4
Guagua	58	48
Lubao	47	33
Macabebe	55	47
Masantol	7	6
Arayat	1	1
Apalit	9	9
Candaba	1	1
Mabalacat	1	1
Total	379	313
Per cent of deaths		82.58
Ilocos Sur:		
Santa Maria	4	2
Total	4	2
Per cent of deaths		50.00
Zambales:		
San Narciso	76	61
San Felipe	141	93
Botolan	1	1
San Antonio	2	1
Total	220	156
Per cent of deaths		70.86
Union:		
Agoó	14	12
Santo Tomas	10	6
Aringay	2	
Tubao	30	22
Luna	6	5
Total	62	45
Per cent of deaths		72.58
Rizal:		
Las Piñas	46	40
Navotas	1	
Pasay	17	11
San Juan del Monte	7	5
Antipolo	4	4
Mariquina	64	58
Pasig	12	12
San Mateo	3	3
San Roque	1	
Cainta	1	1
Malabon	2	2
Montalban	1	1
Caloocan	7	6
Parañaque	5	3
San Felipe Neri	5	4
Taguig	1	1
Total	177	146
Per cent of deaths		82.48
Benguet:		
Baguio	1	
Tarlac:		
Moncada	12	8
Camiling	6	3
Total	18	11
Per cent of deaths		61.11
Mindoro:		
Lubang	32	20
Total	32	20
Per cent of deaths		62.50
Grand total	4,772	3,324
Per cent of deaths, all provinces		69.65

Chinese hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Males.	Females.	
In hospital at last report	27		27
Received	317		317
Discharged	178		178
Transferred	5		5
Died	119		119
Remaining in hospital	47		47

Number of patients treated for the cure of opium habit.

Place and nationality.	Remaining from previous year.	Admitted during year.	Recovered.	Improved.	Not improved.	Remaining at close of year.
San Lazaro:						
Chinese		383	365	18		18
Filipinos		17	14	3		3
Others		1	1			
Total		401	380	21		21
San Juan de Dios:						
Chinese		223	63	[1]2		158
Filipinos		36	34			2
Total		259	97	2		[2]160
Mission, Iloilo:						
Chinese			3	3		
Cebu:						
Chinese		27	27			
Filipinos		37	37			
Others		1	1			
Total		65	[3]65			
Grand total		725	542	26		181

[1] Escaped 1, discharged better 1.
[2] Transferred to San Lazaro for treatment.
[3] Relapsed after leaving hospital.

BAGUIO HOSPITAL DIVISION.

Cases treated at Baguio Hospital.

Diseases	American.	European.	Filipino.	Japanese.	Chinese.	Total.	Female.	Died.
Abortion:								
Accidental	1					1	1	
Threatened			1			1	1	
Abscess		1	1	1		6		
Adenitis, inguinal, suppurative, gonorrheal	1		5	2		8		
Amputation:								
Of fingers			2			2		
Of right femur	1					1		
Asthma			1			1		
Beri-beri				1		1		
Bronchitis:								
Acute			3			3		
Capillary			1			1		
Burns	1			1		2		
Carbuncle, right lumbar region			1			1		
Cerebral concussion			2			2		
Cholera, Asiatic			2			2		

Cases treated at Baguio Hospital—Continued.

Diseases.	American.	European.	Filipino.	Japanese.	Chinese.	Total.	Female.	Died.
Conjunctivitis, acute			1			1		
Contusion, knee			1			1		
Dengue fever	1		1			2	1	
Dermatitis, undetermined			1			1		
Diarrhea	3		3	1		7		
Dysentery, amœbic	14	2	6	3	1	26	1	1
Dysentery, catarrhal	2		3			5	1	
Epididimitis, gonorrheal	1					1		
Enteritis, acute				2		2		
Entero-colitis			2			2		
Face, plastic operation of			1			1	1	1
Fever:								
Ephemeral			2			2		
Puerperal			1			1	1	1
Fistula, rectal			1			1		
Fractures:								
Ribs (eleventh and twelfth)	1					1		
Right clavicle			1			1		
Right tibia and right fibula			1			1	1	
Anatomical neck, left humerus	1					1	1	
Gastritis:								
Acute				1		1		
Chronic	3			1		4		
Gastro-enteritis	1	1	2	1		5	3	1
General debility			1			1		
Heart:								
Aortic stenosis of			1			1		
Mitral regurgitation of			1			1		
Hemorrhoids:								
External	1					1		
Internal			1			1		
Hernia, inguinal			2			2		
Indigestion, intestinal, acute		1				1		
Infection:								
Forearm and arm			1			1		
Foot			1			1		
Hand			1			1		
Leg			1			1		
Labor, premature			1			1	1	
Liver:								
Cirrhosis of	1					1		
Hypertrophic cirrhosis of				1		1		1
Malaria	4		16	12		32	1	
Mammitis, suppurative			1			1	1	
Necrosis, inferior maxillary			1	1		2		
Necrosis, right tibia			1			1		
Nephritis, chronic		1				1		
Neurasthenia		1				1	1	
Osteo-periostitis				1		1		
Otitis media, suppurative			1	1		2		
Parasites, intestinal	1		13	7		21	1	
Parturition	3		1			4	4	
Parotitis			1			1		
Peritonitis, general			1			1		1
Phosphaturia				1		1		
Pneumonia, lobar			1			1		
Renal lithiasis	1					1	1	
Retained secundines, following parturition			1			1	1	
Rheumatism, muscular	1		3	1		5		
Sprain, lumbar muscles			1			1		
Sprue	1					1		
Tonsilitis, follicular	2					2		
Tinea imbricata			3			3		
Trachoma, chronic			1			1		
Tuberculosis, pulmonary			1			1		1
Tumor, benign, left superior maxilla			1			1		
Tumor, type undetermined			1			1		
Ulcers:								
Chronic, of leg			1			1	1	
Corneal			1			1		
Under observation	1	1	4			6		
Undetermined			1			1		
Urethritis, gonorrheal, anterior:								
Acute			1			1		
Chronic	1		1			2		
Wounds:								
Contused	1					1		
Incised			5	2		7		
Lacerated			12	4		16	1	
Stab					1	1	1	
Crushing, foot			1			1		
Total	49	8	136	45	2	240	26	7

Out-door department, Baguio Hospital.

Diseases.	Number of cases.
Abrasions	5
Abscess	8
Acne	3
Adenitis, tubercular	1
Adenoids	1
Alopecia	1
Amenorrhea	2
Amputation of finger	1
Asthenia	18
Asthma	2
Auto-intoxication, intestinal	2
Bronchitis:	
Sub-acute	64
Acute	104
Burns	8
Catarrh, nasal, acute	2
Cellulitis	1
Chancroid	1
Clavus	2
Colitis, acute	1
Conjunctivitis:	
Acute	60
Chronic	1
Constipation:	
Acute	116
Chronic	22
Contusion	17
Dengue	1
Dental caries	15
Dentition, difficult	1
Dermatitis, cause undetermined	35
Dermatitis venata	1
Dhobie itch	30
Diarrhea, acute	93
Dressing for amputation	1
Dysentery, acute	60
Eczema:	
Acute	3
Capitis, chronic	2
Endometritis:	
Acute	2
Cervical	1
Enteritis, acute	1
Entero-colitis	2
Enucleation of eye	1
Epididymitis, gonorrheal	3
Erysipelas, facial	1
Eustachian tube, obstruction of, catarrhal	1
Fever, undetermined	1
Fistula, rectal	1
Flat foot	1
Foreign body embedded in cornea	1
Foreign body in eye	11
Fractures:	
Colles	1
Humerus	2
Metacarpal bone	2
Rib	1
Furuncle	2
Gastritis:	
Acute	146
Chronic	14
Gastro-enteritis:	
Acute	7
Chronic	4
General debility	4
Goiter	3
Headache	7
Heart:	
Aortic stenosis of	2
Dilatation, of	1
Mitral regurgitation of	2
Hemorrhoids:	
External	8
Internal	2
Hordeolum	1
Impacted cerumen	2
Impetigo contagiosa	1
Indigestion:	
Gastric	1
Intestinal—	
Acute	3
Chronic	1
Infections	3
Insomnia	6
Laryngitis, acute	4
Leprosy	2
Malaria	424
Malarial cachexia	3
Mammitis	1
Meatotomy	1
Menorrhagia	9
Naso-pharyngitis, acute	2
Necrosis:	
Inferior maxillary	1
Superior maxillary	1
Nephritis, chronic	4
Neuralgia, rheumatic	6
Neurasthenia	6
Nipple, fissure of	1
Otitis media:	
Acute—	
Catarrhal	3
Suppurative	2
Chronic, catarrhal	2
Ovarian cyst	1
Ovarian tumor	1
Parotitis, acute	2
Parasites, intestinal	17
Pediculosis capitis	1
Pharyngitis, acute	9
Pleurisy, chronic	1
Removal of finger nail	1
Removal of toe nail	3
Rheumatism, muscular:	
Acute	152
Chronic	9
Of diaphragm	1
Rhinitis, acute	3
Sciatica, rheumatis	3
Seminal vesicullitis, chronic, gonorrheal	1
Sprains	31
Stomatitis, parasitic, acute	31
Stricture of posterior urethra	2
Syphilis:	
Primary	2
Secondary	10
Tertiary (keratitis)	1
Teeth extracted (cases)	64
Tinea imbricata	12
Tinea versicolor	2
Tonsilitis, follicular, acute	6
Trachitis	1
Trachoma:	
Acute	4
Chronic	18
Tuberculosis, pulmonary	20
Tumor, benign, scalp	1
Ulcers	37
Under observation	1
Undetermined	1
Urethritis:	
Gonorrheal—	
Acute (female)	3
Posterior	1
Anterior	9
Chronic, posterior	1
Simple—	
Chronic, posterior	1
Anterior	2
Uterus:	
Prolapse of	2
Retroversion of	1
Varicella	4
Verruca acuminata	1
Vaginitis, simple	1
Vulvitis, acute	1
Wounds:	
Contused	10
Infected	59
Incised	38
Lacerated	54
Punctured	8
Total	2,051

Number of specimens examined at the Baguio Sanitarium laboratory.

Specimen.	American.	European.	Japanese.	Chinese.	Filipino.	Total.
Feces	91	6	69	4	110	280
Blood:						
Malaria	20	3	15		24	62
Leucocyte count	4		2		1	7
Red cell count	4	1				5
Hemoglobin	2					2
Stomach contents	5		3			8
Urine	46	4	9		16	75
Miscellaneous	4		5	3	20	32
Total	176	14	108	7	171	471

Intestinal parasites, Baguio Hospital.

	American.	European.	Japanese.	Chinese.	Filipino.	Igorot.	Total.
Number of persons examined	49	4	34	3	34	23	147
Parasites found:							
Ascaris lumbricoides	5		5		9	10	29
Ankylostomum duodenale			9		6	6	21
Strongyloides intestinalis	1				2	1	4
Trichocephalus hominis	5		14	1	19	13	52
Distomum hepaticum						1	1
Tænia solium					1	3	4
Ameba	12	1	5	2	2	8	30
Total	23	1	33	3	39	42	141

Miscellaneous statistics, Baguio Hospital.

Number of cases treated from July 1, 1907, to June 30, 1908	2,291
Number of cases treated during same period of 1906 to 1907	1,635
Increase over previous years	656
Per cent of increase	40.6
Number of days spent in hospital by all patients	3,340
Average number of days per patient	13.68
Number of surgical dressings from July 1, 1907, to June 30, 1908	2,316
Numerical increase over previous year	1,106
Per cent of increase	91.4
Number of surgical operations from July 1, 1907, to June 30, 1908	200
Numerical increase over previous fiscal year	157
Per cent of increase	365.0
Number of prescriptions filled from July 1, 1907, to June 30, 1908	2,397
Numerical increase over previous fiscal year	403
Per cent of increase	20.1
Number of revisits (daily clinic) from July 1, 1907, to June 30, 1908	2,604
Numerical increase over previous fiscal year	1,250
Per cent of increase	92.3
Number of Constabulary examinations for enlistment, etc	14
Number of autopsies performed	3

Average cost of subsistence per person, per day, including patients and employees, etc., of the Baguio Hospital division.

July, 1907	₱0.827
August, 1907	0.9023
September, 1907	0.805
October, 1907	0.6995
November, 1907	0.712
December, 1907	0.828
January, 1908	0.694
February, 1908	0.699
March, 1908	0.725
April, 1908	0.883
May, 1908	0.876
June, 1908	0.678
Net average cost per person, per day, for twelve months, fiscal year 1908	0.7822
Net average cost per person, per day, for twelve months, fiscal year 1907	0.8589

BILIBID PRISON.

Report of sick at Bilibid Prison.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Hospital "A":						
Malaria	7	299	1		288	17
Malarial cachexia		3			3	
Grippe	1	109			108	2
Dysentery:						
Acute		62			61	1
Amebic	39	617	2		623	31
Beriberi	1	115	5		72	39
Varicella	1				1	
Tuberculosis, pulmonary	1	141	5	124	7	6
Adenitis, tubercular		4			4	
Syphilis	2	14			14	2
Lipoma	1	10			11	
Rheumatism, acute	2	148			140	5
Scurvy	1	2			3	
Diabetes mellitus		1			1	
Anemia, pernicious	1	20			18	3
Alcoholism		2			2	
Morphinism		35			18	17
Myelitis, acute	1	1			2	
Mania		29		22	7	
Neuritis		4			4	
Conjunctivitis	1	44			44	1
Hypermetrophia	1				1	
Iritis		8			6	2
Pterygium	1	8			7	2
Keratitis	1	3			4	
Otitis	1	6			7	
Hemorrhoids		20			18	2
Varicocele	1	3			4	
Adenitis		8			8	
Rhinitis		15			15	
Bronchitis:						
Acute	2	225			215	12
Chronic		15			13	2
Pneumonia, lobar	4	31	10		22	3
Empyema		2	1		1	
Gastritis, acute	1	132			123	10
Ankylostomiasis	60	1,774			1,815	19
Ascaris	10	764			774	
Oxyuris		26			26	
Tenia nana	1	1			2	
Tenia saginata		26			26	
Balantidium coli	1	17			18	
Opisthorchis sinensis	3	10			13	
Paragonimus westermanii	2	14			16	
Schistosoma japonicum	5	5			10	
Hernia	1	16			16	1
Abscess, ischio-rectal		21			19	2
Fistula in ano	2	47			44	5
Constipation	1	41			42	
Prolapse of rectum		2			2	
Nephritis, interstitial	2	57	5		48	6
Cystitis		8			7	1
Fistula urinary	1	2			2	1
Hydrocele	1	20			20	1
Orchitis	2	43			45	
Endometritis	1	1			2	
Furuncle		16			16	
Phlegmon		9			9	
Dermatitis		6			7	
Eczema	2	7			9	
Tinea imbricata	2	14			16	
Ulcer, inflamed	1	15			16	
Wounds	1	108			106	3
Burns, by caustic		7			7	
Circumcision	1	57			58	
Malaise		31			31	
Resection of rib		1			1	
Septicemia, from multiple abcess		4	2	1	1	
Angina pectoris		5	1		4	
Aneurismal tumor		1			1	
Amblyopia		5			5	
Appendicitis		1			1	
Carbuncle		1			1	
Chancroid		1			1	
Hysterism		1			1	
Herpes		8			8	

Report of sick at Bilibid Prison—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Hospital "A"—Continued.						
Mercurial stomatitis		1			1	
Rheumatic arthritis		5			5	
Sebaceous cyst		20			20	
Senile debility		4			4	
Tachycardia		3			3	
Tonsilitis		1			1	
Biliary lithiasis		3			3	
Stomatitis, acute		5			5	
Asthma		8			8	
Abscesses		49			42	7
Clavus		2			2	
Enteritis, acute		18			15	3
Epilepsy, major		3		1	2	
Filariasis		1			1	
Gangrene		2			2	
Hemicrania		2			2	
Hepatic cirrhosis		2			1	1
Laryngitis		12			12	
Mydriasis		1			1	
Osteitis		3			2	1
Pinta		4			4	
Smallpox		2		2		
Urticaria		4			4	
Colitis		16		1	15	
Dhobie itch		29			30	
Dengue fever		1			1	
Epithelioma		4			4	
Gonorrhea		7			6	
Ophthalmia		2			2	
Pneumonia, lobar		1	1			
Paralysis, facial		1			1	
Parotitis		1			1	
Pediculosis capitis		2			2	
Posterior sclerosis		3		1	1	1
Staphyloma		2			2	
Serpiginous ulcer		1				1
Acne		13			13	
Asystole		1			1	
Blepharitis		1			1	
Dismenorrhea		1			1	
Epiphora		1			1	
Furunculosis		1			1	
Helminthiasis		1			1	
Herpes zoster		8			6	2
Neurosis		4			4	
Hemorrhage, cerebral		2	1		1	
Hemoptysis		4			4	
Impetigo		2			2	
Lymphangitis		2			2	
Opiumism		20			20	
Polipus, anal		1			1	
Paraphimosis		4			4	
Pharyngitis		4			4	
Varioloid		12		12		
Vaccinia		3			3	
Epistaxis		1			1	
Mumps		48			45	3
Arterio-sclerosis		5	2		3	
Neurasthenia		5			5	
Ataxia, locomotor		5			4	1
Tumor, ovarian		1	1			
Trachoma		53			46	7
Gingivitis		2			2	
Alcoholic cirrhosis		1			1	
Bubo		3			3	
Cataract		4			3	1
Cholera, asiatic		8	3	1	4	
Chalazion		3			3	
Chylocele		1			1	
Dermatitis		4			4	
Erythema		3			3	
Fever, catarrhal		1			1	
Hygroma		1			1	
Measles		4			4	
Neuralgia		6			6	
Pemphigus		7			6	1
Peritonitis, tuberculous		2	1		1	
Posthitis, balano-		1			1	
Paraplegia, spastic		3			1	2

Report of sick at Bilibid Prison—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Hospital "A"—Continued.						
Synovitis		1			1	
Tenia hominis		1			1	
Torticolis		1			1	
Ulceration, with prolapse of rectum		1			1	
Vitiligo		1			1	
Varicose veins		1			1	
Balanitis		1			1	
Colic, intestinal		5			5	
Corneal ulcer		4			4	
Dysentery, chronic		2			2	
Dispepsia		24			22	2
Gastrointestinal catarrh		2			2	
Gastralgia		3			3	
Hordeolum		1			1	
Pneumonia, broncho		2	2			
Stenosis		1			1	
Tendosinovitis		1			1	
Leprosy		2				2
Blenorrhage		1			1	
Colic, gastric		1			1	
Enteritis, gastro		3	1		2	
Hemiplegia		1				1
Indigestion, acute		2			2	
Aortic insufficiency		3			3	
Corneal opacity		2			2	
Endocarditis		1	1			
Hernia, diaphragmatic		1	1			
Mitral insufficiency		3	3			
Myalgia		1			1	
Paresis		1			1	
Urethral stricture		3			2	1
Cellulitis		1			1	
Cardiac insufficiency		4	2		2	
Diarrhea		5			4	1
Dislocation of shoulder		1			1	
Entero-colitis		2			1	1
Mastoid abscess		1				1
Prolapse of rectum		1			1	
Relaxation of scrotum		1				1
Relaxation of prepuce		1			1	
Spinal sclerosis		3				3
Hepatitis		2			2	
Mitral regurgitation		1			1	
Nephritis, parenchymatous		1	1			
Pericarditis, adhesive		1	1			
Elephantiasis		1				1
Cardio-sclerosis		1				1
Aortic stenosis		1	1			
Lumbago		5			5	
Sprains		3			3	
Tuberculosis, general		2	2			
Burns		4			4	
Tumors		3			2	1
Total Hospital "A"	172	5,928	56	165	5,686	243
Hospital "B":						
Tuberculosis, pulmonary	153	124	58	1	62	156
Total Hospital "B"	153	124	58	1	62	156
Grand total	325	6,052	114	166	5,698	399

Bilibid Prison report of deaths.

Diseases.	Presidio.			Carcel.		Total.	Condition.			North Cemetery.
	Filipinos.		Chinese, male.	Filipinos, male.	Chinese, male.		Single.	Married.	Widower.	
	Male.	Female.								
Intermittent fever and malarial cachexia	1					1		1		1
Asiatic cholera	4					4	2	2		4
Dysentery	1			1		2		2		2
Other epidemic diseases (beriberi)	4			1		5	2	2	1	5
Purulent infection and septicemia	1					1		1		1
Tuberculosis of lungs	60			4	1	65	25	37	3	65
Tuberculosis of larynx	1					1		1		1
General tuberculosis	3					3	1	1	1	3
Cancer and other malignant tumors of the female genital organs		1				1		1		1
Acute articular rheumatism	1					1	1			1
Congestion and hemorrhage of the brain	1					1		1		1
Pericarditis	2					2		2		2
Organic diseases of the heart	4			2		6	2	2	2	6
Angina pectoris	1					1		1		1
Diseases of the arteries, atheroma, aneurism, etc	2					2		1	1	2
Broncho-pneumonia	2					2	1	1		2
Pneumonia	8		1	3		12	4	5	3	12
Diarrhea and enteritis (2 years and over)	1					1		1		1
Hernia and intestinal obstructions	2					2	1	1		2
Acute nephritis	1			1		2		2		2
Bright's disease	3			1		4	2	2		4
Diseases of the bladder	1					1		1		1
External violence				22		22	5	17		22
Total	104	1	1	35	1	142	46	86	11	142

Died in Bilibid hospitals, 114; legally executed, 22; died in San Lazaro Hospital, 5; and died in Hospicio de San José, 1; total, 142.

Iwahig penal colony, sick report.

Diseases.	Remaining July 1, 1907.	Admitted.	Died.	Discharged.	Remaining.
Anthrax	1	1		2	
Arthritis		4		4	
Abscesses		25		25	
Bronchitis, acute		11		9	2
Diseases of the ear	1			1	
Enterocolitis		7		7	
Enteritis		4		4	
Fistula, anal		2		2	
Gastritis, acute		18		18	
Wounds, from various weapons	2	44		44	2
Herpes		3		3	
Malaria	9	290	1	290	8
Rheumatism	2	23		25	
Syphilis	1	4		5	
Ulcers	2	10		10	2
Asthma		1		1	
Laryngitis		4		4	
Orchitis		4		4	
Contusions, various regions		18		18	
Congestion, pulmonary		2		2	
Scabies		3		3	
Diarrhea		9		9	
Dysentery, acute		5		5	
Gastritis, chronic		3		3	
Hemorrhoids		1		1	
Gastro-enteritis		4		4	
Tuberculosis, pulmonary		6	1	3	2
Furuncle		2		2	
Complete fracture of femur		2		2	
Conjunctivitis		3		3	
Influenza		17		17	
Beriberi, wet		1	1		
Bronchitis, chronic		3		3	
Dysentery, chronic		2		2	
Eczema		4		4	

Iwahig penal colony, sick report—Continued.

Diseases.	Remaining July 1, 1907.	Admitted.	Died.	Discharged.	Remaining.
Abortion		1		1	
Bites of poisonous animals		1		1	
Neuritis		1		1	
Impetigo		1		1	
Wounds:					
Punctured		1		1	
Incised		7		7	
Contused		4		4	
Cerebral hemorrhage		1	1		
Mitral insufficiency		1	1		
Adenitis		1		1	
Angina pectoris		1		1	
Gastritis		1		1	
Pregnancy		1		1	
Gingivitis		2		2	
Whitlow		1		1	
Absortion of deleterious gases		1		1	
Filariasis		2		2	
Polyps in the mouth		1		1	
Constipation		2		1	1
Otitis, acute external		1		1	
Naso-laryngitis, catarrhal, acute		6		6	
Erythema		1		1	
Organic diseases of the heart		2	1	1	
Epilepsy		1			1
Pleurisy		1		1	
Paragonimus westermanii		1			1
Under observation		3		2	1
Total	18	577	6	569	20

CIVIL HOSPITAL DIVISION.

Medical cases, Civil Hospital.

Diseases.	Male.	Female.	Deaths.	Diseases.	Male.	Female.	Deaths.
Amebiasis intestinalis	81	19	3	Febricula	1		
Alcoholism	20			Gastralgia	1		
Apoplexy	1			Gastritis:			
Amblyopia	1			Acute	17	4	
Arthritis, chronic	1			Chronic	9	2	1
Asthma	2			Hysteria		1	
Aortic regurgitation	1			Hepatitis	1		
Atony of bowels		1		Headache, idiopatic	1		
Bronchitis:				Heat, exhaustion	1	1	
Subacute	5			Hemophthisis	1		
Acute	22	5		Hemophilia	1		
Chronic	9	1		Indigestion:			
Beriberi	27	1		Intestinal	1		
Constipation:				Acute	3		
Acute	1	1		Influenza	7		
Chronic	8			Intestinal parasites:			
Cholera, Asiatic	1			Ascaris lumbricoides	9	3	
Colitis	4			Tenia	2		
Colic:				Trichocephalus dispar	3	1	
Abdominal	7			Trichinosis	1		
Renal	4			Uncinaria	1		
Coryza	2			Locomotor ataxia	1		
Dengue fever	17	1		Lumbago	2		
Diarrhea, acute	2			Malaria:			
Diabetes, mellitus	1			Cachexia	20	5	1
Dyspepsia	1			Tertian	58	3	
Delirium tremens	2			Estivo-autumnal	109	7	
Dementia	1			Quartan	3		
Diphtheria	1			Marasmus		3	
Dysentery (nonamœbic)	12	3	1	Malingering	2		
Dhobie itch	1			Migraine	2		
Enteritis:				Mumps	1		
Gastro	18	6		Measles	2		
Acute	11	1		Mercurism	1		
Enteritis	9			Morphine poisoning	1		
Endocarditis	1			Mitral regurgitation	2		
Epilepsy	3			Multiple neuritis		1	1
Enteritis, tubercular		1		Malarial spleen	1		
Filariasis	1			Nausea of pregnancy		6	

Medical cases, Civil Hospital—Continued.

Diseases.	Male.	Female.	Deaths.
Nephritis:			
Acute	1		
Interstitial—			
Chronic	3		
Subacute	1		
Parenchymatous, chronic	2		
Neurasthenia	8	7	
Neuralgia, facial	3		
Parotitis	1		
Paranoia	1		
Paralysis:			
Facial	1		
Partial	2		
Paresis	1		
Paraplegia (spastic)	2	2	
Peliosis	1		
Peritonitis (tubercular)		2	2
Pleurisy	5		
Pharyngitis	3		
Ptomaine poisoning	7		
Pneumonia:			
Lobar	8		
Bronchial	3	1	
Rachitism			1
Syphilis:			
Secondary	4		
Tertiary	7		
Primary	1		
Syncope	4	1	
Sciatica	5		
Smallpox	1		
Tuberculosis	35	2	2
Typhoid fever	12	1	
Tonsilitis, simple	1		
Undetermined	22	2	1
Vaccinia	1		
Total	686	95	13

Surgical cases, Civil Hospital.

Diseases.	Male.	Female.	Deaths.
Adenitis:			
Inguinal	3		
Cervical	3		
Appendectomy	45		
Appendicitis, catarrhal:			
Chronic	13	5	
Acute	10	5	
Abscess:			
Jaw	2		
Submaxillary	1		
Ear	1		
Appendiceal	1		
Liver	6		2
Buttock	1		
Neck	1		
Palmar	4		
Foot	5		
Arm		1	
Iliac	1		
Perinephritis	1		
Breast		1	
Leg	1		
Thigh	1		
Testicle	1		
Gluteal	1		
Amputation:			
Of toe	3		
Of fingers	8		
Of leg	1		
Of thigh		1	
Aneurism	1		1
Arthritis:			
Gonorrheal	2	1	
Chronic	2		
Buboes	13		
Burns:			
Hand and wrist	1		
Hands, face and chest	1		
Body	1		
Bursitis:			
Of hand	1		
Elbow	1		
Carcinoma, liver	3		3
Chancroid	7		
Chalazion	2		
Chocked disk	1		
Cholelithiasis	3	2	1
Cholecystitis		2	
Corneal ulcers	6		
Conjunctivitis:			
Purulent	8	1	
Traumatic	4		
Infective	3		
Phlyctenular	3		
Conjunctivitis—Cont'd.			
Acute	5		
Simple	4	1	
Cellulitis:			
Of hand	2		
Of neck	3		
Of face	2		
Of finger	1		
Of foot	6		
Of thigh	1		
Of leg	2		
Circumcision	3		
Cyst, spermatic cord	1		
Contusion:			
Of body	4		
Of foot	8		
Of chest	3		
Of hip	3		
Of eye	3		
Of clavicle	2		
Of leg	1		
Of superior maxilla	3		
Of inferior maxilla	1		
Of head	2		
Of scalp	5		
Concussion of brain	3		2
Cystitis	3	2	1
Cyst, sebaceous	1		
Cataract:			
Operative	3	3	
Traumatic	2		
Carcinoma of tongue	1		
Dermatitis	5		
Dislocation:			
Of elbow, left	2		
Of wrist		1	
Of ankle		1	
Edema of larynx	1		
Epididymitis	3		
Epithelioma, lip	1		
Extraction of teeth	1		
Foreign body in trachea	1		
Fracture:			
Of forearm	2	1	
Of leg	2		
Of metacarpal bone	2		
Metacarpal	3		
Of rib	1		
Of clavicle	2		
Of arm	2	1	
Of tibia	3		
Of skull	1	1	2
Of spine	2		1
Of nose	1		

Surgical cases, Civil Hospital—Continued.

Diseases.	Male.	Female.	Deaths.
Fissure in ano	4	2	
Furunculosis	7		
Gastric ulcer	2		
Gonorrhea	21	2	
Gangrene of toe	1		
Glaucoma	3		
Hydrocele	5		
Hydrothorax		3	
Hemorrhoids	7		
Hemorrhage	1		1
Hematuria	1		
Hernia:			
Inguinal	9		
Femoral	1		
Ventral		1	
Infected foot	10		
Infected leg	2	1	
Infected arm	1	1	
Infected toes	1		
Infected hand	2		
Ingrowing toe nails	3		
Iridectomy	1		
Iritis	5	1	
Keratitis	4		
Lipoma		1	
Lacerated foot	8		
Lacerated fingers	6		
Lacerated hand	1	1	
Lacerated eyebrow	1		
Lacerated ear	1		
Lacerated toe	1		
Laryngitis	1		
Lymphangitis	3		
Leukoma	3		
Mastitis		1	
Myopia		1	
Necrosis of toes	1		
Nephrolithiasis	1		
Orchitis	19		
Otitis media, purulent	5	3	
Paraphimosis	1		
Pemphigus	1	1	
Phthisis, bulbi	1		
Polypus, nasal	1		
Pyemia	1		1
Phlebitis	2		
Rheumatism, gonorrheal	1		
Retention of urine	1		
Rhinitis	1		
Sprained ankle	2		
Sprained back	1		
Sprained knee	2		
Staphiloma	1		
Stricture, rectal		1	
Synovitis of knee	1		
Stricture, urethral	4		
Trachoma	10		
Tonsilitis, suppurative	6	1	
Tumor:			
Of jaw	1		
Of breast	1		
Of foot	1		
Of toe	1		
Of neck	2		
Of brain			1
Torticolis	1		
Ulcers:			
Of leg	2		
Of scrotum	1		
Of face	1		
Of forearm	1		
Of foot	2		
Urticaria	1		
Urethritis	2		
Varicocele	3		
Varicose veins	1	1	
Wound:			
Gunshot—			
Of abdomen		1	
Of neck	1		
Lacerated—			
Foot	5		
Leg	2		
Scalp	4		
Nose	1		
Infected—			
Arm and forearm	1		
Foot	3		
Hand	1		
Punctured—			
Foot	2		
Leg	1		
Lip	1		
Incised—			
Chest	1		1
Hand	1		
Total	514	53	17

Obstetrical and gynecological cases, Civil Hospital.

Disease.	Female.	Deaths.
Abortion:		
Spontaneous	3	
Pyosalphinx	1	
Threatened	2	
Cervicitis	1	
Curettage	20	
Childbirth	48	
Dysmenorrhea	3	
Eclampsia	1	1
Endometritis	12	
Endometritis, chronic	1	
Endocervicitis	1	
Miscarriage	2	
Ovarian cystoma	2	2
Oöphoritis	1	
Pregnancy	5	
Polypus, uterine	2	
Perineorrhaphy	4	
Retroversion of uterus	1	
Septicemia puerperal	2	1
Tubal rupture		1
Vaginismus	2	
Vaginitis	1	
Total	115	5

CULION LEPER COLONY DIVISION.

Report of status of lepers.

Status.	Europeans, male.	Filipinos.		Chinese, male.	Total.
		Male.	Female.		
Remaining July 1, 1907	1	489	248	1	739
Admitted		1,054	499	1	1,554
Born		9	9		18
Discharged		6	1		7
Escaped		11	2		13
Died		698	260		958
Remaining	1	837	493	2	1,333

Average cost of subsistence per leper per day at the Culion leper colony.

July, 1907	₱0.146	January, 1908	₱0.133
August, 1907	0.141	February, 1908	0.114
September, 1907	0.149	March, 1908	0.104
October, 1907	0.143	April, 1908	0.121
November, 1907	0.1385	May, 1908	0.124
December, 1907	0.137	June, 1908	0.136

SANITARY ENGINEERING DIVISION.

Number of orders issued.

Month issued.	Sanitary engineering division.	Health districts.					
		No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1907.							
July	70	6	2	18	4	1	101
August	152	2	0	6	4	1	165
September	92	3	2	1	118	5	221
October	56	3	0	0	0	6	65
November	56	6	8	2	1	2	75
December	22	6	0	1	0	0	29
1908.							
January	135	9	0	5	1	1	151
February	57	0	1	0	0	0	58
March	49	10	2	2	2	3	68
April	88	24	3	0	0	0	115
May	41	13	2	1	0	0	57
June	67	0	0	4	0	0	71
Total	885	82	20	40	130	19	1,176

Number of orders obeyed.

Month issued.	Sanitary engineering division.	Health districts.					
		No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1907.							
July	56	6	1	12	1	1	77
August	144	2	0	3	1	1	151
September	88	2	2	1	5	5	103
October	45	3	0	0	0	6	54
November	48	6	7	2	1	2	66
December	19	4	0	0	0	0	23
1908.							
January	103	6	0	------	1	1	115
February	46	0	1	0	0	0	47
March	33	10	1	2	1	2	49
April	76	3	2	0	0	0	81
May	12	0	2	1	0	0	15
June	2	0	0	1	0	0	3
Total	672	42	16	26	10	18	784

Prosecutions for failure to comply with sanitary orders.

Month.	Number of prosecutions.	Amount of fines.
1907.		
July	0	----------
August	1	₱5.00
September	0	----------
October	0	----------
November	[1]4	20.00
December	5	170.00
1908.		
January	0	----------
February	0	----------
March	[2]8	10.00
April	[3]6	185.00
May	[1]8	----------
June	[4]20	90.00
Total	42	420.00

[1] 3 withdrawn. [2] 2 withdrawn. [3] 1 withdrawn. [4] 6 withdrawn.

Plans for new buildings approved.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1907.						
July	5	4	2	0	0	11
August	4	1	4	1	0	10
September	6	11	21	28	11	77
October	11	7	26	47	18	109
November	1	5	12	45	19	82
December	4	11	20	47	21	103
1908.						
January	8	4	19	40	19	90
February	2	10	16	39	21	88
March	9	3	127	59	23	221
April	13	6	98	41	32	185
May	35	8	60	59	19	181
June	11	7	46	44	33	141
Total	109	77	446	450	216	1,298

Number of orders canceled or disapproved.

Month issued.	Sanitary engineering division.	Health districts.					
		No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1907.							
July	14	0	1	6	3	0	24
August	8	0	0	3	3	0	14
September	4	1	0	0	113	0	118
October	11	0	0	0	0	0	11
November	8	0	1	0	0	0	9
December	3	2	0	0	0	0	5
1908.							
January	17	3	0	1	0	0	21
February	2	0	0	0	0	0	2
March	7	0	1	0	1	0	9
April	5	0	0	0	0	0	5
May	0	0	0	0	0	0	0
June	1	0	0	0	0	0	1
Total	80	6	3	10	120	0	219

Number of orders not completed.

Month issued.	Sanitary engineering division.	Health districts.					
		No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1907.							
July	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	0	0	1	0	0	1
1908.							
January	15	0	0	0	0	0	15
February	9	0	0	0	0	0	9
March	9	0	0	0	0	1	10
April	7	21	1	0	0	0	29
May	29	13	0	0	0	0	42
June	64	0	0	3	0	0	67
Total	133	34	1	4	0	1	173

Personal of the Sanitary Engineering Division.

Month.	Engineers.	Inspectors.	Clerks.	Draftsmen.	Employees.	Messengers.	Total.
1907.							
July	1	2	1	1	1	1	7
August	1	3	1	1	1	1	8
September	1	1	1	1	1	1	6
October	1	1	1	1	1	1	6
November	1	2	1	1	1	1	7
December	1	2	1	1	1	1	7
1908.							
January	1	1	1	1	1	1	6
February	1	1	1	1	1	1	6
March	1	1	1	1	1	1	6
April	1	1	1	1	1	1	6
May	1	1	1	1	1	1	6
June	1	2	1	1	1	1	7

STATISTICS FOR SAN LAZARO HOSPITALS DIVISION.

Report of sick.

Patients in hospital July 1, 1907	308
Patients admitted during year	934
Patients discharged during year	670
Patients transferred during year	13
Patients died during year	207
Patients escaped during year	5
Patients remaining in hospital June 30, 1908	347

Average number of patients treated per day.

July, 1907	309.32	January, 1908	319
August, 1907	305.45	February, 1908	376.3
September, 1907	308.53	March, 1908	403.19
October, 1907	315.16	April, 1908	375.53
November, 1907	317.93	May, 1908	335.64
December, 1907	313.67	June, 1908	348.46

General average for year, 335.68.

Average cost of subsistence per patient per day.

July, 1907	₱0.346	January, 1908	₱0.356
August, 1907	.341	February, 1908	.354
September, 1907	.335	March, 1908	.363
October, 1907	.344	April, 1908	.358
November, 1907	.352	May, 1908	.366
December, 1907	.384	June, 1908	.318

General average for year, ₱0.351.

SAN LAZARO HOSPITALS.

Cholera department, San Lazaro Hospitals.

Month.	In hospital July 1, 1907.		Admitted.		Discharged, not cholera.		Discharged cured.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1907.												
July			2	1	0	0	0	0	2	0	0	1
August			2	0	1	0	0	1	1	0	0	0
September			16	12	0	1	1	1	12	7	3	3
October			21	9	0	0	11	5	11	6	2	1
November			4	4	3	0	2	0	3	3	0	0
December			12	6	0	1	1	0	4	4	7	1
1908.												
January			48	29	3	0	22	10	27	18	3	2
February			8	2	3	0	6	3	2	1	0	0
March			2	1	1	1	0	0	1	0	0	0
April			0	0	0	0	0	0	0	0	0	0
May			1	0	0	0	0	0	1	0	0	0
June			12	1	7	1	0	0	3	0	2	0
Total			128	65	18	4	43	20	67	39	[1] 2	0

Race.	In hospital July 1, 1907.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans			9	3	9	2	0	1	0	0
Filipinos			110	60	45	22	64	37	2	0
Chinese			0	0	0	0	0	0	0	0
Others			9	2	6	1	3	1	0	0
Total			128	65	60	25	67	39	[1] 22	0

[1] Not cholera.

Insane department, San Lazaro Hospitals.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital at last report	5		2		65	16	2		2		92
Admitted	6				60	12	1		3		82
Discharged	10				12	3			2		27
Died					14	2			1		17
Transferred					2	3					5
Remaining	1		2		97	20	3		2		125

Race.	In hospital July 1, 1907.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	5		6		10				1	
Europeans	2								2	
Filipinos	65	16	60	12	14	6	14	2	97	20
Chinese	2		1						3	
Others	2		3		2		1		2	
Total	76	16	70	12	26	6	15	2	105	20

Leper department, San Lazaro Hospitals.

Status.	Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	
In hospital at last report	126	88	2	------	216
Admitted	13	6	2	------	21
Discharged	------	1	2	------	3
Died	22	15	------	------	37
Transferred	2	------	------	------	2
Escaped	------	3	------	------	3
Remaining	115	75	2	------	192

Race.	In hospital July 1, 1907.		Admitted.		Discharged.		Died.		Escaped.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	------	------	------	------	------	------	------	------	------	------	------	------
Europeans	------	------	------	------	------	------	------	------	------	------	------	------
Filipinos	126	88	13	6	2	1	22	15	------	3	115	75
Chinese	2	------	2	------	2	------	------	------	------	------	2	------
Others	------	------	------	------	------	------	------	------	------	------	------	------
Total	128	88	15	6	4	1	22	15	------	3	117	75

Plague department, San Lazaro Hospitals.

One patient (Chinese, male) was admitted in July, 1907, and died. This case ocurred on board the steamship *Ferd Laeisz.*

Smallpox department, San Lazaro Hospitals.

Month.	In hospital July 1, 1907.		Admitted.		Discharged, not smallpox.		Discharged cured.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1907.												
July	------	------	3	1	2	------	1	------	------	------	------	1
August	------	------	6	------	------	------	5	1	1	1	------	------
September	------	------	4	------	------	------	2	------	1	------	1	------
October	------	------	3	------	1	------	3	------	------	------	------	------
November	------	------	6	------	1	------	4	------	------	------	1	------
December	------	------	3	------	------	------	4	------	------	------	------	------
1908.												
January	------	------	6	------	------	------	2	------	------	------	4	------
February	------	------	1	2	------	------	5	2	------	------	1	------
March	------	------	19	13	------	------	5	1	4	1	11	11
April	------	------	36	23	------	1	28	20	4	7	15	5
May	------	------	22	24	------	------	20	13	7	9	10	7
June	------	------	16	12	------	------	21	9	13	5	2	5
Total	------	------	125	75	4	1	100	46	20	22	2	5

NOTE.—Over 40 cases, varioloid are included.

Opium habit deparment, San Lazaro Hospitals.

Status.	Chinese.	Filipinos.	Others.	Total.
In hospital at last report				
Admitted	383	17	1	401
Recovered	365	14	1	380
Improved	18	3		21
Not improved				
Remaining	18	3		21

Race.	In hospital July 1, 1907.	Admitted.	Recovered.	Improved.	Remaining.
Chinese		383	365	18	18
Filipinos		17	14	3	3
Others		1	1		
Total		401	380	21	21

Miscellaneous department, San Lazaro Hospitals.

Diseases.	In hospital July 1, 1907.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Tetanus			5	1	2		3	1		
Measles			16	9	16	9				
Diphtheria			3	2	2	1	1	1		
Total			14	12	20	10	4	2		

San Lazaro Morgue report.

	Number of bodies.
Remaining from last year (skeletons)	4
Buried:	
Leprosy	39
Cholera	364
Smallpox	75
Tetanus	5
Violence	15
Diphtheria	5
Bubonic plague	[a]1
Typhoid	4
Human bones	2
Other causes of death	70
Total	584
Dropped:	
Cremated	21
Buried by family	182
Buried by city	363
Turned over to the naval authorities	1
Turned over to R. V. Dell for burial	9
Transferred to Malecon Morgue	7
Buried by Chinese Club	1
Total	584

Number of autopsies held, 168.

[a] This case occurred on board the steamship *Ford Laeisz.*

STATEMENT OF EXPENDITURES.

The following statement shows the expenditures made during the fiscal year 1908 chargeable against the appropriation made by Act No. 1679 for the Bureau of Health during that period:

Amount appropriated	₱1,280,000.00	
Allowed by Secretary of the Interior to be expended from receipts to the Bureau of Health	88,000.00	
Total		₱1,368,000.00

Expenses chargeable as follows:

General:		
Salaries and wages	109,608.42	
Transportation in Manila	15,446.82	
Photographs	231.15	
Commutation of leave	12,416.32	
Traveling expenses, employees	5,068.44	
Repairs	77.70	
Stationery	2,398.39	
Printing	15,385.79	
Postage and telegrams	2,296.56	
Periodicals	96.74	
Cablegrams	244.23	
Incidentals	1,689.50	
New furniture	575.76	
Miscellaneous, property division	17,011.54	
Rent, sanitary stations	220.00	
Post-office box	32.00	
Telephone rent	865.94	
Incidentals, sanitary stations	1,614.00	
Disinfecting apparatus	3,382.63	
Central Free Dispensary	1,527.03	
Asilo de San Vicente de Paul	1,328.25	
Colegio de Santa Isabel	4,305.26	
Hospicio de San José	40,191.05	
Medicines, indigent persons	3,376.19	
Transportation of freight	1,469.69	
Board of examiners	721.83	
Incidentals, Central Free Dispensary	251.47	
		241,832.70
Emergency fund:		
Salary	1,924.57	
Serum	223.75	
		2,148.32
Inspection division:		
Salaries and wages	97,906.76	
Traveling expenses	7,222.50	
		105,129.26
Prison sanitation division:		
Salaries and wages	7,274.31	
Medicines and medical supplies and disinfectants	6,853.08	
		14,127.39

Culion leper colony division:		
Salaries and wages	₱18,520.05	
Subsistence, lepers	43,304.24	
Subsistence, employees	10,908.33	
Equipment, kitchen	251.05	
Equipment, hospital	2,431.85	
Medicines and medical supplies	672.33	
Stationery and office supplies	2.20	
Fuel, etc.	909.07	
Construction	18,012.72	
Incidentals	485.06	
Gratuity to lepers	7,002.20	
Bedding, towels, etc., lepers	8.45	
Clothing	1,658.34	
		₱104,165.89
Collection of lepers		16,409.01
Benguet Sanitarium division:		
Salaries and wages	7,003.54	
Subsistence	3,394.41	
Medicines and surgical supplies	650.51	
Hospital equipment	2,765.70	
Incidentals	485.28	
Laundry	413.40	
Fuel	571.46	
		15,284.30
San Lazaro Hospitals division:		
Salaries and wages	37,755.91	
Subsistence	44,634.04	
Medicines	2,678.78	
Shoeing ponies, and forage	722.14	
Telephone rent	173.25	
Lights	3,152.50	
Bedding	470.80	
Soap	1,120.42	
Incidentals	2,985.22	
Cigarettes, tobacco, etc.	191.47	
Gratuity to lepers	1,938.40	
Clothing, lepers	1,167.42	
New furniture	138.60	
Transportation	9.00	
Towels	63.80	
Fuel	1,531.90	
		98,733.65
Civil Hospital division:		
Salaries and wages	53,498.11	
Subsistence	48,989.71	
Coal and oil	869.05	
Rent of buildings	10,299.93	
Telephone	260.41	
Laundry	6,560.16	
Lights	4,153.26	
Medicines and surgical supplies	5,471.50	

Civil Hospital division—Continued.		
Repairs	₱1,000.01	
Miscellaneous general supplies	5,546.77	
Incidentals	289.23	
Forage and horseshoeing	501.00	
Extra transportation	2.00	
		₱137,441.14
Vaccinating division:		
Salaries and wages	54,254.21	
Antiseptic supplies and dressings	4,675.36	
Vaccine virus	26,304.20	
Ice for virus	408.54	
Traveling expenses for vaccinators	4,837.07	
		90,479.58
Grand total		825,751.24

In addition to the foregoing statement of actual expenditures made from funds appropriated by Act No. 1679, there are the following outstanding obligations chargeable to the appropriation of the Bureau and funds appropriated for same during the fiscal year 1908:

General:		
Salaries and wages	₱63.67	
Transportation in Manila	1,433.00	
Photographs	.60	
Traveling expenses, employees	1,837.19	
Stationery	151.82	
Postage and telegrams	136.80	
Incidentals	1,288.21	
Miscellaneous, property division	12.21	
Rent, sanitary stations	20.00	
Telephone rent	87.40	
Disinfectants and apparatus	148.50	
Central free dispensary	82.19	
Asilo de San Vicente de Paul	120.75	
Colegio de Santa Isabel	325.00	
Hospicio de San José	3,572.90	
Medicines, indigent persons	50.95	
Transportation of freight	642.81	
Board of examiners	704.00	
Incidentals, central free dispensary	85.04	
		₱10,763.04
Emergency fund:		
Salary	165.00	
Serum	16.50	
		181.50
Inspection division:		
Salaries and wages	6,499.97	
Traveling expenses	4,379.91	
		10,879.80
Prison sanitation division: Medicines and medical supplies and disinfectants		896.97

Culion leper colony division:		
Salaries and wages	₱950.00	
Subsistence, employees	3,651.35	
Equipment, kitchen	198.49	
Equipment, hospital	2,794.67	
Medicines and medical supplies	2,268.38	
Fuel, etc	330.00	
Construction	15,620.31	
Incidentals	1,166.36	
Gratuities to lepers for	2,216.60	
Bedding, towels, etc., for lepers	661.20	
Clothing	2,853.53	
Freight	353.55	
		₱33,064.44
Collection of lepers		36,243.00
Benguet sanitarium division:		
Salaries and wages	771.00	
Subsistence	1,333.06	
Medicines and surgical supplies	2,280.49	
Hospital equipment	1,415.84	
Incidentals	148.48	
Laundry	30.60	
Fuel	40.00	
		6,019.47
San Lazaro Hospitals division:		
Salaries and wages	203.33	
Subsistence	3,414.22	
Medicines	191.99	
Shoeing ponies and forage	90.90	
Telephone rent	15.75	
Lights	303.30	
Bedding	391.50	
Soap	108.79	
Incidentals	1,852.10	
Cigarettes, tobacco	68.20	
Gratuity to lepers	124.20	
New furniture	56.63	
Transportation	8.00	
Towels	1.70	
Fuel	1,210.80	
		8,041.41
Civil Hospital division:		
Salaries and wages	255.00	
Subsistence	4,013.15	
Coal and oil	138.00	
Rent of buildings	872.50	
Telephone	26.00	
Laundry	560.67	
Lights	460.80	
Medicines and surgical supplies	1,658.53	
Repairs	77.83	
Miscellaneous general supplies	587.80	
Forage and horseshoeing	4.50	
Extra transportation	70.05	
		8,724.83

Vaccinating division:		
Salaries and wages	₱3,959.00	
Antiseptic supplies and dressings	693.30	
Vaccine virus	1,401.50	
Ice for virus	39.25	
Traveling expenses, vaccinators	4,234.82	
		₱10,327.87
Total		125,142.33

The following amounts as credits to this appropriation were collected during the year:

Refund by provinces of salaries of district health officers	₱52,563.41	
Sales of medicines, demijohns, empty vaccine tubes, refund of transportation of Dr. Swezy, etc	3,004.16	
Miscellaneous collections:		
San Lazaro Hospital	1,196.25	
Culion leper colony	1,037.79	
Civil Hospital	24,991.70	
Baguio Hospital	4,802.00	
		₱87,595.31
Total expenditures for fiscal year 1908		825,751.24
Total liabilities		125,142.33
Total		950,893.57
Balance from appropriation fiscal year 1908		417,106.43
Balance fiscal year 1907		159,134.74
Total available		576,241.17

CHOLERA STATISTICS.

[Taken from paper by Dr. Victor G. Heiser, published in Philippine Journal of Science April, 1908, and brought up to date.]

Cases and deaths from cholera in the Philippine Islands from the beginning of the outbreak in 1902 to June 30, 1908.

Date.	Cases.	Deaths.
March 2, 1902, to March 8, 1904	166,252	109,461
March 8, 1904, to January 1, 1908	11,691	8,654
Total	177,943	118,115

Mortality, 74.03 per cent.

Cholera statistics arranged in the order in which the towns became infected.

JANUARY TO JULY, 1906.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
Jan. 3	Naic	Cavite	Jan. 24	Feb. 26	195
Jan. 3	Macabebe	Pampanga	May 21	June 28	97
Jan. 4	Abucay	Bataan	Jan. 16	Mar. 8	66
Jan. 4	Bulacan	Bulacan	Feb. 15	Mar. 2	19
Jan. 4	Noveleta	Cavite	Jan. 31	Feb. 8	58
Jan. 4	Calumpit	Bulacan	Jan. 15	June 29	65
Jan. 4	Malolos	do	Jan. 4	June 30	41
Jan. 4	Quingua	do	Jan. 11	June 30	88
Jan. 4	Imus	Cavite	Mar. 24	Apr. 5	36
Jan. 5	Hagonoy	Bulacan	Jan. 5	Mar. 5	33
Jan. 5	Lilio	La Laguna	Jan. 5	Jan. 5	2
Jan. 5	Magdalena	do	Jan. 5	Jan. 15	3
Jan. 5	Majayjay	do	Jan. 5	Jan. 15	2
Jan. 5	Paete	do	Jan. 12	Mar. 7	26
Jan. 5	Guagua	Pampanga	Jan. 17	Feb. 5	50
Jan. 5	San Luis	do	June 16	June 30	120
Jan. 5	Malabon	Rizal	Jan. 24	Feb. 1	27
Jan. 6	Tarlac	Tarlac	Jan. 30	Feb. 1	8
Jan. 8	San Roque	Cavite	Jan. 8	Jan. 8	1
Jan. 8	Santa Cruz	La Laguna	Jan. 12	June 30	15
Jan. 10	Balanga	Bataan	Apr. 12	Apr. 19	38
Jan. 11	Paombong	Bulacan	Jan. 11	Feb. 26	48
Jan. 11	Cabanatuan	Nueva Ecija	Jan. 11	Feb. 28	42
Jan. 12	Pila	La Laguna	Mar. 7	Mar. 7	2
Jan. 12	Baliuag	Bulacan	Jan. 31	Apr. 18	70
Jan. 12	Lubao	Pampanga	Jan. 25	May 24	56
Jan. 13	San Francisco de Malabon	Cavite	Feb. 2	Feb. 28	57
Jan. 13	Cavite	do	Jan. 26	June 30	20
Jan. 15	Nagcarlang	La Laguna	Jan. 15	Jan. 15	1
Jan. 16	Orion	Bataan	Feb. 21	Apr. 19	84
Jan. 16	Pagsanjan	La Laguna	Jan. 22	June 30	10
Jan. 16	Arayat	Pampanga	Apr. 26	Apr. 28	108
Jan. 16	San Fernando	do	Jan. 19	Mar. 31	5
Jan. 17	Bongabong	Nueva Ecija	Jan. 17	Jan. 17	1
Jan. 18	Camp Stotsenberg	Pampanga	June 13	June 13	2
Jan. 19	Candaba	do	Feb. 5	Mar. 10	49
Jan. 22	Angat	Bulacan	Jan. 27	Mar. 2	127
Jan. 22	Bifiang	La Laguna	Jan. 22	Jan. 22	1
Jan. 22	Gapang	Nueva Ecija	Jan. 22	Feb. 20	36
Jan. 22	Apalit	Pampanga	Jan. 22	Feb. 27	59
Jan. 22	Calamba	La Laguna	Jan. 22	June 30	3
Jan. 25	Santa Maria	Bulacan	Jan. 27	Mar. 7	39
Jan. 25	Florida	Pampanga	Jan. 25	Jan. 25	1
Jan. 25	Mexico	do	Jan. 25	Mar. 20	2
Jan. 25	Santa Rita	do	Jan. 25	Feb. 26	8
Jan. 26	San Pedro Macati	Rizal	Jan. 26	June 28	3
Jan. 29	Maragondon	Cavite	Feb. 28	Mar. 10	70
Jan. 29	Angeles	Pampanga	Jan. 29	Jan. 29	1
Jan. 29	Bacolor	do	Feb. 20	Feb. 21	4
Jan. 30	Bocaue	Bulacan	Jan. 31	Feb. 20	14
Jan. 30	Indang	Cavite	Feb. 1	Feb. 13	24
Jan. 30	Peñaranda	Nueva Ecija	Jan. 30	Mar. 27	8
Jan. 30	Porac	Pampanga	Jan. 30	Jan. 30	1
Jan. 30	La Paz	Tarlac	Feb. 6	Feb. 10	10
Jan. 31	Orani	Bataan	Feb. 8	Mar. 16	35
Jan. 31	San Antonio	Nueva Ecija	Feb. 13	Mar. 26	7
Feb. 1	Pangil	La Laguna	Feb. 17	Feb. 17	4
Feb. 5	San Isidro	Nueva Ecija	Feb. 16	Feb. 26	8
Feb. 15	Bagac	Bataan	Feb. 15	Feb. 15	1
Feb. 15	Polo	Bulacan	Feb. 15	Feb. 16	3
Feb. 21	Guevara	Tarlac	Feb. 21	Feb. 26	9
Mar. 5	Siniloan	La Laguna	Mar. 5	June 27	142
Mar. 15	Bacoor	Cavite	Apr. 26	May 21	16
Mar. 19	Capas	Tarlac	Mar. 19	Mar. 19	1
Mar. 22	Mabitac	La Laguna	Mar. 22	Mar. 31	2
Apr. 16	Parañaque	Rizal	May 1	May 28	25
May 1	Pasay	do	June 9	June 20	4
May 29	Mariveles	Bataan	May 29	May 29	1
June 9	Pasig	Rizal	June 20	June 30	61
June 12	Antipolo	do	June 12	June 12	1
June 18	Tanay	do	June 23	June 30	145
June 20	San Felipe Neri	do	June 20	June 30	5
June 22	Nampaya	La Laguna	June 22	June 22	2
June 25	Cabuyao	do	June 25	June 29	2
June 26	Taytay	Rizal	June 26	June 28	10
June 28	Taguig	do	June 28	June 28	1
June 29	Bay	La Laguna	June 29	June 29	1
June 30	Fort McKinley	Rizal	June 30	June 30	1

Cholera statistics arranged in the order in which the towns became infected—Contd.

FISCAL YEAR 1906–1907.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
July 2	Pasig	Rizal	July 7	Sept. 9	108
July 2	Fort McKinley	do		Aug. 16	6
July 2	Pasay	do	July 7	Aug. 17	44
July 2	Tanay	do	July 29	Aug. 17	72
July 2	San Felipe	do		July 20	20
July 2	Lumbang	La Laguna		July 2	1
July 2	Santa Cruz	do	July 15	Oct. 31	132
July 2	Pagsanjan	do	July 15	Oct. 22	11
July 2	Pila	do	July 4	Aug. 30	49
July 2	Malolos	Bulacan	July 30	Aug. 22	145
July 2	Quingua	do			117
July 2	Cavite	Cavite	Aug. 31	Oct. 26	28
July 3	San Luis	Pampanga			105
July 3	Macabebe	do	July 8	Aug. 18	84
July 3	Mariquina	Rizal		Aug. 3	15
July 4	Hagonoy	Bulacan	July 15	Nov. 23	88
July 5	San Pedro Tunasan	Rizal		July 26	26
July 6	Lilio	La Laguna		July 10	2
July 6	Cabuyao	do	Aug. 16	Sept. 2	38
July 6	Calamba	do		Sept. 4	51
July 7	Bay	do		July 7	1
July 7	San Isidro	Nueva Ecija	Aug. 5	Sept. 3	70
July 7	Taguig	Rizal			42
July 7	Antipolo	do		July 27	3
July 7	Morong	do			22
July 8	Calumpit	Bulacan	Aug. 4	Oct. 1	55
July 8	Bulacan	do	July 15	Oct. 10	40
July 9	Polo	do	July 25	Sept. 22	82
July 9	Angat	do			101
July 9	Santa Rita	Pampanga	July 14		58
July 10	Bacolor	do		Sept. 1	231
July 10	Apalit	do		Sept. 1	55
July 10	Candaba	do			49
July 10	Guagua	do			164
July 10	Meycauayan	Bulacan	July 25		30
July 11	Baliuag	do	Aug. 2	Oct. 22	413
July 11	Paombong	do	July 11	Oct. 11	29
July 12	Santa Maria	do			35
July 12	Naic	Cavite	July 19	Oct. 15	63
July 13	Rosario	do	Aug. 22		10
July 13	Pañgil	La Laguna			5
July 18	Malabon	Rizal	July 25	Dec. 28	170
July 18	San Miguel	Bulacan	July 19	Sept. 29	81
July 14	Bocaue	do	July 14	Sept. 26	74
July 14	Angeles	Pampanga			7
July 14	Santa Rosa	La Laguna			54
July 16	Lubao	Pampanga			77
July 16	San Fernando	do			98
July 16	Santo Tomas	do		July 16	1
July 16	Rosales	Pangasinan			4
July 18	Bayambang	do			20
July 18	Imus	Cavite	July 25	Oct. 15	43
July 19	Biñang	La Laguna			22
July 19	Mexico	Pampanga		Nov. 15	17
July 20	Porac	do			17
July 20	Maragondon	Cavite	July 20	Aug. 18	5
July 20	San Juan de Guimba	Nueva Ecija		July. 20	2
July 21	Cabanatuan	do		Sept. 28	56
July 23	Pagbilao	Tayabas	July 29	Sept. 12	51
July 25	Arayat	Pampanga			56
July 26	Lucena	Tayabas	Aug. 22	Sept. 21	46
July 26	Tarlac	Tarlac	Aug. 5	Aug. 12	14
July 27	Binangonan	Rizal		Aug. 15	20
July 28	Bautista	Pangasinan	Aug. 15	Sept. 10	23
July 29	Peñaranda	Nueva Ecija	Aug. 3	Nov. 13	150
July 29	San Antonio	do	Aug. 4	Sept. 3	20
July 29	Laguimanoc	Tayabas		Aug. 4	7
July 29	Tiaong	do			8
July 30	Floridablanca	Pampanga			16
Aug. 2	Gapan	Nueva Ecija	Aug. 11	Oct. 27	139
Aug. 2	Aliaga	do		Sept. 26	218
Aug. 2	Majayjay	La Laguna			3
Aug. 3	Nagcarlang	do		Sept. 19	66
Aug. 3	Tayabas	Tayabas		Aug. 27	10
Aug. 3	Victoria	Tarlac	Sept. 8	Sept. 25	24

Cholera statistics arranged in the order in which the towns became infected—Contd.

FISCAL YEAR 1906–1907—Continued.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
Aug. 3	Caloocan	Rizal			87
Aug. 7	Siniloan	La Laguna			5
Aug. 7	Noveleta	Cavite			27
Aug. 12	Pozorrubio	Pangasinan		Aug. 12	1
Aug. 15	Baguio	Benguet		Aug. 15	1
Aug. 16	Sariaya	Tayabas		Oct. 14	10
Aug. 16	San Francisco de Malabon	Cavite		Sept. 30	4
Aug. 17	Dagupan	Pangasinan			2
Aug. 18	Orion	Bataan			7
Aug. 19	Calasiao	Pangasinan			1
Aug. 25	Pura	Tarlac	Aug. 30	Nov. 8	25
Aug. 25	Talavera	Nueva Ecija	Sept. 16	Oct. 12	108
Aug. 28	Camp Vicars	Moro			9
Sept. 1	Cabatuan	Iloilo	Oct. 2	Oct. 29	366
Sept. 3	Magdalena	La Laguna			5
Sept. 4	Iloilo	Iloilo	Sept. 12	Oct. 21	74
Sept. 11	Moncada	Tarlac		Sept. 12	2
Sept. 14	Binmaley	Pangasinan	Sept. 15		10
Sept. 16	Mabalacat	Pampanga			1
Sept. 18	Dumangas	Iloilo	Sept. 16	Oct. 31	210
Sept. 18	Molo	do			8
Sept. 18	Pavia	do	Sept. 25	Oct. 27	32
Sept. 18	La Paz	do	Sept. 25	Oct. 22	50
Sept. 18	Barotac Nuevo	do		Nov. 2	46
Sept. 19	Jaro	do	Sept. 28	Oct 13	58
Sept. 21	San Mateo	Rizal		Sept. 21	1
Sept. 21	Nabalas	Iloilo		Sept. 28	6
Sept. 23	Tayug	Pangasinan	Oct. 4	Oct. 15	14
Sept. 24	Los Baños	La Laguna			1
Sept. 25	Igbaras	Iloilo		Sept. 29	2
Sept. 25	Buenavista	do			4
Sept. 27	Misgao	do	Oct. 8	Nov. 8	294
Sept. 29	Guimbal	do			2
Oct. 4	Alimodian	do	Oct. 17	Nov. 5	275
Oct. 8	San Miguel	do	Oct. 17	Nov. 4	195
Oct. 8	Santa Barbara	do		Oct. 27	36
Oct. 8	Leon	do	Oct. 26	Nov. 2	33
Oct. 9	Janiuay	do	Oct. 11	Nov. 16	100
Oct. 9	Banate	do		Oct. 18	12
Oct. 20	Sual	Pangasinan			2
Oct. 27	Camiling	Tarlac	Nov. 3	Nov. 23	26
Oct. 28	Taliisay	Occidental Negros		Nov. 19	4
Oct. 28	Silay	do		Dec. 11	7
Nov. 3	Dumarao	Capiz	Nov. 16	Jan. 18	88
Nov. 13	Laguan	Samar		Dec. 22.	1
Nov. 13	San Miguel	do			12
Nov. 13	Catubig	do			16
Nov. 22	Dao	Capiz		Jan. 8	15
Nov. 22	Pontevedra	Occidental Negros		Feb. 23	41
Dec. 1	Dumalag	Capiz		Jan. 8	31
Dec. 5	Jamindan	do	Jan. 22	Jan. 26	31
Dec. 8	Palapag	Samar		Mar. 23	42
Dec. 8	Laoang	do			4
Dec. 9	Panay	Capiz			35
Dec. 10	Jinigaran	Occidental Negros		Feb. 23	14
Dec. 23	Pambujao	Samar			3
Dec. 23	Capiz	Capiz		Feb. 16	23
Dec. 27	Tagabiran	Samar		Dec. 27	2
Jan. 2	Mambusao	Capiz	Jan. 11	Jan. 26	26
Feb. 13	Saravia	Occidental Negros		Feb. 20	9
Feb. 26	Sigma	Capiz		Jan. 29	2
Mar. 12	Pilar	Occidental Negros		Mar. 16	9
Mar. 23	Bacolod	do		Mar. 23	2
Apr. 7	Victoria	do		Apr. 29	15
	Parañaque	Rizal			25
	Pililla	do			28
	Navotas	do			140
	Bacoor	Cavite			13
	Indang	do			21
	Calauang	La Laguna			1
	Lingayen	Pangasinan			1
	Total number cases				7,085

Cholera statistics arranged in the order in which the towns became infected—Contd.

JULY 1, 1907, TO JUNE 30, 1908.

Date of first case.	Municipality.	Province.	Highest number of cases.	Date of last cases.	Total.
1907.					
July 22	Carigara	Leyte	Aug. 25	Sept. 8	86
Aug. 9	Mandaon	Masbate	Sept. 12	Oct. 4	58
Aug. 18	Bango	Leyte	Sept. 7	Sept. 13	10
Oct. 6	Baliuag	Bulacan	Nov. 15	Dec. 11	10
Nov. 3	Calumpit	....do	Nov. 30	Dec. 7	16
Nov. 10	San Miguel	....do	Dec. 6	Jan. 16	29
Nov. 14	Guagua	Pampanga	Dec. 14	Feb. 17	56
Nov. 14	Sexmoan	....do	Dec. 8	Feb. 13	56
Nov. 19	Santa Rita	....do	Nov. 19	Jan. 23	8
Nov. 26	Mexico	....do	Nov. 26	(?)	2
Nov. 29	Apalit	....do	(?)	Dec. 11	9
Nov. (?)	Bacolor	....do	Feb. 7	Feb. 19	79
Nov. (?)	San Fernando	....do	Dec. 12	Mar. 12	15
Nov. (?)	Macabebe	....do	Dec. 6	Jan. 24	55
Nov. (?)	Betis	....do	Jan. 26	Jan. 26	13
Nov. (?)	San Luis	....do	Dec. 6	Dec. 6	2
Dec. 1	Orion	Bataan	Dec. 1	Dec. 4	2
Dec. 1	Lubao	Pampanga	Jan. 28	Feb. 2	47
Dec. 2	Paombong	Bulacan	Dec. 10	Jan. 27	29
Dec. 2	Quingua	....do	Dec. 7	....do	5
Dec. 2	Bulacan	....do	Jan. (?)	Feb. 4	14
Dec. 2	Mabalacat	Pampanga	Dec. 2	Dec. 2	1
Dec. 3	Candaba	....do	Dec. 3	Dec. 3	1
Dec. 4	Hagonoy	Bulacan	Jan. 24	Feb. 17	30
Dec. 4	Bocaue	....do	Jan. 27	Jan. 31	34
Dec. 10	Balanga	Bataan	Dec. 10	Dec. 10	1
Dec. 23	Malolos	Bulacan	(?)	Feb. 27	18
Dec. —	Floridablanca	Pampanga	(?)	Jan. 30	8
Dec. —	Minalin	....do	(?)	....do	14
Dec. —	Caloocan	Rizal	(?)	Jan. 27	7
Dec. —	Malabon	....do	(?)	....do	2
1908.					
Jan. 1-17	Pagsanjan	La Laguna	(?)	Jan. 1-17	2
Jan. 1-17	Angeles	Pampanga	(?)	....do	3
Jan. 1-17	Masantol	....do	(?)	....do	7
Jan. 1-17	Antipolo	Rizal	(?)	....do	4
Jan. 1-17	Mariquina	....do	(?)	....do	64
Jan. 1-17	Pasig	....do	(?)	....do	12
Jan. 1-17	San Mateo	....do	(?)	....do	3
Jan. 1-17	San Roque	....do	(?)	....do	1
Jan. 1-17	Cainta	....do	(?)	....do	1
Jan. 17	Montalban	....do	Jan. 17	Jan. 17	1
Jan. 23	Cavite	Cavite	Feb. 4	Feb. 17	20
Jan. 24	Santa Cruz	Laguna	Jan. 24	Jan. 24	1
Jan. 24	San Narciso	Zambales	Jan. 26	Mar. 11	76
Jan. 26	Bayambang	Pangasinan	June 28	June 30	98
Jan. 26	Bautista	....do	June 22	....do	156
Jan. 26	San Felipe	Zambales	Jan. 29	Feb. 27	141
Jan. 27	Navotas	Rizal	Jan. 27	Jan. 27	1
Jan. 27	Pasay	....do	Feb. 3	Feb. 17	17
Jan. 29	Orani	Bataan	Feb. 20	Feb. 20	6
Jan. 30	San Juan del Monte	Rizal	Feb. 7	Feb. 7	7
Jan. 31	Abucay	Bataan	Jan. 31	Jan. 31	3
Jan. 31	Dinalupijan	....do	....do	....do	11
Feb. 2	Parañaque	Rizal	Feb. 2	Feb. 19	5
Feb. 4	Villasis	Pangasinan	....do	Apr. 20	4
Feb. 9	San Carlos	....do	June 21	June 30	356
Feb. 9	San Felipe Neri	Rizal	Feb. 9	Feb. 28	5
Feb. 11	Malasiqui	Pangasinan	June 15	June 30	83
Feb. 13	Lubang	Mindoro	Feb. (?)	Feb. (?)	32
Feb. 16	Arayat	Pampanga	Feb. 16	Feb. 16	1
Feb. 17	Taguig	Rizal	Feb. 17	Feb. 19	1
Feb. 19	Dagupan	Pangasinan	May 29	June 30	423
Feb. 19	Tayug	....do	June 29	June 29	14
Feb. 23	Calasiao	....do	June 23	June 30	276
Feb. 25	San Roque	Cavite	Feb. 25	Feb. 25	2
Mar. 3	Botolan	Zambales	Mar. 3	Mar. 3	1
Mar. 8	San Antonio	....do	Mar. 8	Mar. 8	2
Mar. 16	Moncada	Tarlac	Mar. 19	June 28	12
Mar. 22	Laspiñas	Rizal	Apr. 18	May 22	46
Mar. 31	Santo Tomas	Pangasinan	Mar. 31	Mar. 31	1
Apr. 1	Bacoor	Cavite	Apr. 8	Apr. 8	4
Apr. 5	San Nicolas	Pangasinan	Apr. 5	Apr. 5	3
Apr. 10	Mangatarem	....do	Apr. 10	Apr. 10	1
Apr. 17	Luna	Union	Apr. 31	June 28	6
Apr. 19	Agno	Pangasinan	May 12	May 12	29
Apr. 20	Santa Barbara	....do	May 7	May 15	41

Cholera statistics arranged in the order in which the towns became infected—Contd.

JULY 1, 1907, TO JUNE 30, 1908—Continued.

Date of first case.	Municipality.	Province.	Highest number of cases.	Date of last cases.	Total.
Apr. 27	Capiz	Capiz	June 1	June 26	233
May 1	Asingan	Pangasinan	May 27	June 29	33
May 5	Ibisan	Capiz	May 31	June 21	51
May 5	Mambusao	---do	May 15	June 26	12
May 7	Lingayen	Pangasinan	June 10	June 10	22
May 10	Dao	Capiz	June 1	June 21	8
May 10	Dumalag	---do	May 10	May 10	2
May 11	San Rafael	Bulacan	May 11	May 11	1
May 11	Binmaley	Pangasinan	May 27	May 27	8
May 11	Mangaldan	---do	June 14	June 30	582
May 14	Panay	Capiz	June 1	---do	226
May 20	Sual	Pangasinan	May 20	May 20	3
May 21	Pontevedra	Capiz	May 21	June 30	52
May 24	Balungao	Pangasinan	June 30	---do	96
May 24	Pozorrubio	---do	June 28	---do	102
May 24	San Jacinto	---do	June 8	June 29	133
May 27	Binalonan	---do	June 17	---do	189
May 27	Urdaneta	---do	May 27	June 11	10
May 31	Sapian	Capiz	May 31	May 31	40
June 1	Panitan	---do	June 10	June 26	46
June 5	Manaoag	Pangasinan	June 26	June 29	95
June 11	Baguio	Benguet	June 11	June 11	1
June 15	San Pablo	Laguna	June 15	June 15	1
June 15	San Fabian	Pangasinan	---do	---do	4
June 18	Santa Maria	Ilocos Sur	June 29	June 29	4
June 19	Agoo	Union	June 22	June 28	14
June 19	Cuyapo	Nueva Ecija	June 19	June 19	1
June 21	Alaminos	Pangasinan	June 21	June 21	1
June 21	Jamindan	Capiz	---do	---do	1
June 21	Pilar	---do	---do	---do	2
June 22	San Manuel	Pangasinan	June 29	June 29	52
June 22	Bolinao	---do	June 22	June 22	1
June 24	Santa Maria	Pangasinan	June 26	June 29	32
June 28	Santo Tomas	Union	June 30	June 30	10
June 29	Natividad	Pangasinan	June 29	June 29	4
June 30	Camiling	Tarlac	June 30	June 30	6
June 30	Tubao	Union	---do	---do	30
June 30	Aringay	---do	---do	---do	2
	Grand total				4,772

Cases and deaths from cholera in the city of Manila, January 1, 1906, to January 1, 1907.

BY AGES.

Age.	Cases.	Deaths.	Mortality.	Age.	Cases.	Deaths.	Mortality.
Under 30 days	1	1	100	50 to 55 years	18	17	94.4
1 month to 2 years	39	36	92.3	55 to 60 years	22	22	100
2 to 5 years	121	116	95.9	60 to 65 years	5	5	100
5 to 10 years	54	50	92.6	65 to 70 years	11	11	100
10 to 15 years	56	43	76.8	70 to 75 years	2	1	50
15 to 20 years	97	75	77.3	75 to 80 years	3	3	100
20 to 25 years	112	96	85.7	80 to 85 years	1	0	0
25 to 30 years	118	100	97.4	85 to 90 years	2	2	100
30 to 35 years	71	57	80.3	Over 90 years			
35 to 40 years	61	55	90.2				
40 to 45 years	24	22	91.3	Total	848	744	87.7
45 to 50 years	35	32	91.4				

BY RACE.

Race.	Cases.	Deaths.	Mortality.	1 case to—	Date of last case.
Americans	12	9	75	488	Sept. 4, 1906
Filipinos	782	698	89.3	243	Nov. 17, 1906
Chinese	30	27	90	741	Oct. 12, 1906
Foreigners	24	10	41.7	189	Nov. 27, 1906

Cases and deaths from cholera in the city of Manila, January 1, 1907, to January 1, 1908.

BY AGES.

Age.	Cases.	Deaths.	Mortality.	Age.	Cases.	Deaths.	Mortality.
Under 30 days				35 to 40 years	21	20	95.23
1 month to 2 years	6	6	100	40 to 45 years	16	13	81.25
2 to 5 years	14	13	92.85	45 to 50 years	8	8	100
5 to 10 years	15	14	93.33	50 to 55 years	7	7	100
10 to 15 years	12	10	83.33	55 to 60 years	3	1	33.33
15 to 20 years	21	14	66.66	60 to 65 years	2	2	100
20 to 25 years	30	28	93.33	65 to 70 years	2	2	100
25 to 30 years	40	32	80				
30 to 35 years	26	24	92.30	Total	223	194	86.99

BY RACE.

Race.	Cases.	Deaths.	Mortality.	1 case to—	Date last case.
Americans	3	0	0.0	1,733	Oct. 17,1907
Filipinos	212	186	87.7	921	Dec. 31,1907
Chinese	4	4	100	4,507	Oct. 19,1907
Foreigners	4	4	100	1,255	Oct. 9,1907
Total	223	194	86.9	1,002	

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FIG 1. FISH DRYING ESTABLISHMENTS, BARRIO OF BANCUSAY, TONDO.

FIG. 2. INTERIOR OF QUINTA MARKET BEFORE IMPROVEMENTS WERE MADE.

PLATE III.

FIG. 1. INTERIOR OF QUINTA MARKET AFTER IMPROVEMENTS WERE MADE.

FIG. 2. CHINESE LAUNDRY, CALLE HERRAN.

PLATE IV.

INTERIOR TENEMENT HOUSE, CALLE MAGALLANES.

PLATE V.

CALLE HORMIGA (NARROW STREET).

PLATE VI.

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FIG. 2. UNIVERSITY HOSPITAL.

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FIG. 2. GIRLS' DORMITORY AND NURSES' TRAINING SCHOOL, CALLE MERCADO.

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(In process of construction.)

FIG. 2. NICHES, PACO CEMETERY.

PLATE IX.

FIG. 1. DRIVEWAY, CEMENTERIO DEL NORTE.

FIG. 2. PROFESSOR CALDERON AND MUNICIPAL PHYSICIAN CASTAÑEDA WITH A GROUP OF FILIPINA MIDWIVES.

PLATE X.

FIG. 1. DEAD-ANIMAL WAGON.

FIG. 2. METHOD OF HANDLING PAILS, PAIL-CONSERVANCY SYSTEM.
(Soon to be superseded by new sewer system.)

PLATE XI.

WAGON TRANSPORTING PAILS TO SANITARY BARGE.

(Soon to be superseded by new sewer system.)

PLATE XII.

FIG. 1. MARY J. JOHNSTON MEMORIAL HOSPITAL.

FIG. 2. GROUP OF OUTDOOR PATIENTS.

PLATE XIII.

FIG. 1. ROOM FOR CONVALESCENTS.

FIG. 2. CHILDRENS' CLINIC.

PLATE XIV.

CHILD PATIENT (NOT AN UNUSUAL SIGHT).

PLATE XV.

FIG. 1. REPRESENTATIVE BIRTHPLACE OF FILIPINO BABIES—EXTERIOR.
(Professor Calderon's collection.)

FIG. 2. REPRESENTATIVE BIRTHPLACE OF FILIPINO BABIES—INTERIOR.
(Professor Calderon's collection.)

PLATE XVI.

FIG. 1. DEEP WELL RIG NO. 3 DRILLING WELL AT DAGUPAN, PANGASINAN.

FIG. 2. DEEP WELL RIG NO. 1 (PORTABLE, CROSS COUNTRY) DRILLING WELL AT STOCK FARM (BUREAU OF AGRICULTURE), ALABANG.

FIG. 3. JET RIG NO. 1 DRILLING 3-INCH WELL AT GUAGUA, PAMPANGA.

PLATE XVII.

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ANNUAL REPORT

OF THE

BUREAU OF HEALTH

FOR THE

PHILIPPINE ISLANDS

VICTOR G. HEISER, M. D.
DIRECTOR OF HEALTH
PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH
AND MARINE-HOSPITAL SERVICE

JULY 1, 1908, TO JUNE 30, 1909

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ANNUAL REPORT OF THE BUREAU OF HEALTH.

BUREAU OF HEALTH,
Manila, July 26, 1909.

SIR: I have the honor to submit herewith the following report, which is a statement in general terms of the health and medical work carried on by the Bureau of Health for the year ended June 30, 1909, and the tenth annual report of this division of the Government of the Philippine Islands.

GENERAL ASPECT.

During the year just closed there were more large sanitary projects and works of public utility completed than during any similar period since the United States took possession of the Philippines, all of which may confidently be expected to have an important bearing in making for permanent sanitary advancement and a lowered death rate.

The new gravity water system, the supply for which is collected from an uninhabited watershed, was sufficiently advanced in November so that that water from this source has been exclusively used in the water mains of the city since that date, thus practically insuring the inhabitants of the city of Manila against a serious outbreak of cholera or other grave intestinal disease.

During May the new sanitary sewer of the city was ready for use and many connections have already been made, thus placing Manila in the front rank of Oriental cities in the question of sewage disposal.

The capacity of the Culion leper colony was increased, so that it will now accommodate about 1,900 lepers, and the first collection of lepers has been made from all of the provinces except that of Nueva Ecija and Moro Province.

The Bureau of Public Works sunk forty artesian wells, and the provinces about as many more.

The Baguio Hospital, which has accommodations for 44 patients, was opened in July.

The modern reinforced concrete hospital at Bilibid, with a capacity of 376 patients, was ready for use in February.

A hookworm commission was placed in the field at Taytay and another at Las Piñas.

Extensive drainage improvements were made on the San Lazaro Estate, making it possible to transfer over a thousand persons thereto who previously occupied insanitary areas.

In addition to the foregoing and the ever-increasing amount of routine work, the Bureau combated with success a number of serious outbreaks of cholera, especially the one that occurred in Manila during September.

HEALTH IN THE TROPICS.

As each year's experience is added to that which went before, it is becoming more and more evident that those who observe a few simple rules can maintain good health in the tropics with more certainty than is possible in a temperate climate.

The diseases which occur most frequently in temperate climates, such as pneumonia, rheumatism, diphtheria, and scarlet fever, are the ones for which the prophylaxis is not well known, while the more common diseases in the tropics, like dysentery, hookworm, and malaria, are the ones for which the prophylaxis is well known. The following simple rules which are issued by this Bureau, if faithfully observed, will practically insure anyone from contracting the last-mentioned diseases:

1. Be vaccinated to-day. The Bureau of Health will do it free of charge.
2. *Never* drink any water unless it has been either boiled or distilled, or eat any raw vegetables. If you observe this rule carefully you will probably never contract dysentery, typhoid fever, cholera, or any other disease that originates in the intestines. Disregard of this rule is responsible for the returning to the United States of over 50 per cent of the invalids who leave these Islands.
3. Fruit is wholesome, and may generally be eaten raw with impunity, provided it is of a kind that grows upon trees, well above the ground.
4. Avoid patent medicines. "Do not put drugs of which you know nothing into bodies of which you may know less."
5. Alcoholic stimulants are not necessary, the advice of the "old resident" to the contrary notwithstanding.
6. Generally disease-carrying mosquitoes fly only at night; therefore, always sleep under a good mosquito net.
7. Otherwise observe the same hygienic rules that are applicable to temperate climates, including physical exercise.

LOW DEATH RATE AMONG GOVERNMENT EMPLOYEES.

The better care which the Government employees receive and the advantage of rejecting those obviously physically unfit has been most clearly demonstrated by the mortality rate of 8.62 for the fiscal year just closed.

The foregoing is believed to furnish an excellent example of what may be expected when the rules of hygiene are still further observed, and more especially when they become diffused among the masses. It also gives concrete proof of the value and necessity of modern health organization.

MUNICIPAL SANITATION IN MANILA.

The site of the city of Manila is a tidal flat intersected by the mouths of the Pasig River and numerous esteros or canals. That portion of Manila north of the Pasig has an elevation above mean high tide of

from 1 to 5 feet. The portion south of the Pasig River has an elevation of from 1 to 9 feet above mean high tide.

With this extremely low level, it will be readily understood that sanitation in Manila would be a difficult problem even under the best of conditions. Considering the conditions which really exist upon this low site, a tropical climate and a people whose ideas of personal hygiene are not very far advanced, the extent of the difficulty of making Manila a sanitary city may be appreciated. The problem of drainage and sewage is difficult because of the flat grades, but, for the surface at least, this difficulty is offset by short leads to the numerous esteros and water courses.

Prior to July 1, 1908, much good work in municipal sanitation had been accomplished. A new source for the water supply of the city, upon an uninhabited watershed, had been secured, and the city water system greatly extended. A pail conservancy system for the disposal of night soil had been inaugurated. The garbage-collection and street-cleaning departments had done much to transform Manila into a clean city. All this and much more in the suppression and prevention of epidemic diseases had been accomplished in a few short years, but there remain very many serious defects in the sanitary system which must be remedied to render Manila a sanitary city. The principal ones were persistently pointed out over a period of years by this Bureau, but with the exception of the removal of the barrio Rosario and a few other spasmodic efforts, no relief was obtained. Most of these defects date back scores of years, and occurred in the days when sanitation received very little attention in any quarter of the globe.

The gravest of these sanitary defects, and it may be considered the root of most of the trouble in making Manila sanitary, is the custom of permitting houses to be built promiscuously all over an interior plot of ground, without regard to street or alley lines. This neglect to supervise the construction of houses and the plotting of suburban subdivisions resulted in the growth of the horribly filthy and congested interiors in the strong-material districts, and of barrios or suburbs in the light-material districts, which were inaccessible by streets, and could only be entered by means of a narrow path between rice paddies, not wide enough to permit even a garbage cart to enter.

The second great defect, lack of system in surface drainage, is accentuated by the first. No effective systematic system of surface drainage is possible without streets and alleys, and where houses are crowded into an interior without streets or alleys and without regard to proper spacing.

The importance of a system of surface drainage in the light-material districts of Manila is at once apparent in view of the fact that the house and stable wastes of 90 per cent of these districts are cared for as surface drainage, and will have to be cared for as surface drainage for many years

to come. The condition of these insanitary congested interiors, without surface drainage, where the houses are so closely placed that one can scarcely pass between them, with their house and other wastes lying in pools under and between them, may be better imagined than described.

In these interiors and closed barrios, made up of collections of miserable shacks, without proper kitchen facilities and without surface drainage, with overcrowding greater than that of the famous "lung" blocks of New York or Chicago, the difficulty of finding and combating epidemic diseases is very great. Even if fortunate enough to possess a public closet, it is so much easier to throw their excrement out of the window or under the house that a very large proportion of these denizens never patronize the public midden shed. Imagine the difficulty of disinfecting an area of this description, of detecting contacts, and maintaining a quarantine.

The efforts of the Bureau to correct these defects, to clear out insanitary interiors, to open closed barrios, and to secure some kind of surface drainage, met with little success. The better class of people in Manila seldom go into the interiors, and many considered that the Bureau was only persecuting an inoffensive class of poverty-stricken unfortunates. It needed the lesson of a severe cholera epidemic at a time when serious losses to business would result, to awaken public opinion and give the Bureau the support so long withheld. The Municipal Board, as guardian of the city finances, evidently considered financial economy and retrenchment as more necessary than sanitation. With the object lesson of a severe epidemic and the prestige of a successful campaign ending with suppression, the recommendations of the Bureau of Health began to receive attention, and results, even if slow, are beginning to materialize.

The cardinal principle in preventing the spread of cholera and suppressing an epidemic is the safe disposal of the excrement of the entire population. This is a simple proposition with a modern city, a modern sewer system, and flush closets. In the poorer districts of Manila, through lack of or failure to use closet facilities, the task of finding all fecal matter was both arduous and costly. Areas properly drained and dry, in which the houses are properly spaced, can be disinfected by a few hours' sunlight, without cost. Emergency drainage and disinfection of the overcrowded, undrained interiors described above was effected slowly, cost much money, and had to be frequently repeated. To render swampy filthy interiors safe, disinfection of whole areas is involved. To find places soiled by fecal matter in a dry clean interior is an easy matter, and only the soiled spots need to be disinfected.

After the disappearance of cholera from Manila, the Bureau of Health made strenuous efforts to get rid of the insanitary nipa-shack interiors in the district of strong materials, and have city water and public midden sheds placed at the disposal of every inhabitant of the poorer districts. Considerable success was achieved along these lines.

Six hundred and forty-one of the most insanitary hovels were ordered vacated and were removed from the strong-material district. Forty-four additional midden sheds and fourteen public water hydrants were installed during the year. Much more could have been done toward obliterating the congested interiors if more sanitary building sites had been available. Experience has shown that it will be necessary to lay out such building sites and to arrange for cheap rental. It is useless to insist upon destroying the houses of the inhabitants of the insanitary districts unless a proper place is provided for them to settle. Otherwise, it will be a case of driving them from one insanitary site to another, and charges of persecution will be hard to refute. The *sanitary barrio* is the foundation upon which all future work in the sanitation of Manila will be based.

It should be as near as practicable to existing avenues of communication. It should be upon easily drained land. It should be subdivided into streets, alleys, and lots according to a definite plan. The unit of the sanitary barrio should be the *sanitary block*. Each sanitary block should contain each of the following necessities:

1. Streets and alleys.
2. A system of surface drainage.
3. Public closet.
4. Public bath and laundry.
5. Public water hydrants.

The insanitary congested interior should be prevented by an ordinance prohibiting the building of houses which do not front or abut upon a public street or alley or upon a private street or alley which has been approved.

With the platting and installation of the sanitary barrios, the congestion in the most insanitary districts could be relieved, the low places filled in, streets and alleys cut through, and a system of surface drainage installed. Public closets, public water hydrants and public washing places must be added wherever necessary.

A market for Tondo with water communication is a necessity to prevent the illegal use of Tondo Beach as a market. Produce from the frequently cholera-infected towns of Bulacan, Pampanga, and Rizal is brought to Tondo Beach and sold. The people selling illegally have no compunction about disposing of prohibited and dangerous foods in time of cholera. In response to the recommendations of the Bureau of Health with regard to this matter, the Municipal Board has decided to erect a market at the Pretil Bridge, which will bring these illegal venders under control and reduce to a minimum the danger to the public health from this source.

The walling of the esteros is one of the most important sanitary necessities of Manila. The cost of this project is believed to be large,

but it must be done sooner or later and the cost could be covered by a bond issue, distributing the burden over a period of years.

The sanitary treatment of the esteros of Manila is only second in importance as a sanitary measure to the installation of sewer and water systems, and must be undertaken. It is said that the cost is prohibitive, estimated roughly at ₱5,000,000; but under an arrangement as above suggested, this work could be commenced at once.

The useful commercial esteros could be dredged and walled, and the low places along their banks and any other depressions in the city could be filled with the mud from the esteros. Useless ramifications of the esteros could be filled in, and the useful esteros straightened. The lowlands within the city limits now used for agricultural purposes involving irrigation, should be filled with the products of the dredges and raised to a level fit for residential purposes.

To sum up, the sanitary necessities of Manila, in the order of urgency, are as follows:

1. Sanitary barrios, as outlined above, upon which to settle occupants of insanitary houses, ordered vacated.

2. The Manila city water supply must be extended to every part of the city and placed within easy reach of everyone.

3. Tanks and reservoirs must be so constructed as to preclude the possibility of contamination.

4. Esteros must be controlled and confined to definite beds either by adequate walls or by dredging, so that any overflow land will be drained between tides.

5. The filling in of low places, which can not be drained, to the proper height above the curb is essential.

6. Public closets must be established in all barrios, so that every inhabitant of the city of Manila will have closet facilities at his disposal. It is advisable to have more closets even if of less seating capacity; six closets of six pails each will be of more value than three of twelve pails each, for the reason that the native has a shorter distance to travel. Also, the cutting of alleys through back yards will facilitate his journey to the closet.

7. Before permitting land to be used for building purposes within the city limits, the land should be subdivided by streets and alleys upon a definite plan. The indiscriminate building of nipa shacks in the interior of a block without order or regard for necessary intervening spaces should not be permitted. Streets and alleys should be cut through already existing collections of nipa shacks and, when necessary, houses removed to permit proper spacing. Streets must be opened into barrios within the city limits which are now isolated, and have no wagon roads entering them, to permit the collection of garbage and refuse.

8. All wells must be filled in.

9. Stricter enforcement of the building code in the erection of new buildings is necessary.

10. A proper system of surface drainage for every part of the city of Manila where such drainage is lacking, but especially for (1) the San Lazaro Estate and that portion of the city from the San Lazaro Estate to the railroad crossing on both sides of Calle Cervantes, (2) Santa Monica, (3) Antonio Rivera, (4) Palomar and Magdalena interior, (5) that portion of Tondo north of Moriones and west of Estero de la Reina, and (6) that part of Malate district bounded by Herran, Wright, San Andres, and Nueva.

Special attention is invited to the three maps which have already been submitted in discussing this matter with the Governor-General and the city engineer, but which are not reproduced here on account of their size:

The first showing the sanitary work done prior to July, 1908, in the matter of the installation of public closets, public water hydrants, and the removal of insanitary shacks; the second showing the work done in this direction for the period between July 1, 1908, and July 1, 1909; and the third showing the sanitary necessities which will have to be supplied in the future to make Manila a sanitary city. This map, however, does not show a complete system of surface drainage nor the project for the treatment of the esteros.

MEDICAL EDUCATION.

The facilities for the study of medicine offered by the two high grade medical colleges of Manila have been taken advantage of during the year in a manner never equaled before. The study of medicine has become a serious preparation for a scientific profession and not a preparation for a political career.

The Philippine Medical School operating under Government auspices and the San Jose Medical College, the Medical Department of the Royal and Pontifical University of Santo Tomas, have vied with each other in a commendable rivalry for improvement.

The first graduation exercises of the Government school were held in the Zorrilla Theater on Saturday morning, February 27, 1909. The graduating class consisted of eight young men who had formerly studied in Santo Tomás University or some other institution of equally high standing, and had been in attendance at the Philippine Medical School during the two years of its existence.

The course of study in the Government school covers five years, and is designed to fit students for actual practice of their profession among their own people, the purpose being to get as many as possible of the graduates to locate in the remote municipalities where they are needed.

ANNUAL REPORT

OF THE

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FOR THE

PHILIPPINE ISLANDS

VICTOR G. HEISER, M. D.
DIRECTOR OF HEALTH
PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH
AND MARINE-HOSPITAL SERVICE

JULY 1, 1908, TO JUNE 30, 1909

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ANNUAL REPORT OF THE BUREAU OF HEALTH.

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Manila, July 26, 1909.

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Extensive drainage improvements were made on the San Lazaro Estate, making it possible to transfer over a thousand persons thereto who previously occupied insanitary areas.

AT BAGUIO.

Sunday, March 13.—Tuberculosis.

Monday, March 14.—Climate, hygiene, and sanitation; business session re-return to Manila Monday night.

It is proposed that the daily sessions begin at 9 a. m. and continue until 5 p. m. with an intermission from 12 to 2 for luncheon. The sessions on tuberculosis; climate, hygiene, and sanitation, and the business session will be held at Baguio, in the Benguet Mountains.

A suitable social programme will be arranged.

In order that the committee on arrangements may, at an early date, have at hand as much information as possible regarding the probable attendance and the material available for the final programme, it is requested that you fill out the accompanying blank at your earliest convenience and forward it to Dr. E. R. Whitmore, secretary-treasurer of the Philippine branch of the Far Eastern Association of Tropical Medicine. It is earnestly desired, also, that you furnish such ideas and criticisms concerning the proposed programme as may suggest themselves.

I am, very truly, yours,

PAUL C. FREER,
President of the Far Eastern Association of Tropical Medicine.

SESSIONS.

Protozoölogy, helminthology. Cholera, plague, leprosy. Surgery and obstetrics; diseases of children. Fevers in the tropics, including, malaria, typhoid, etc. Dysenteries, beriberi. Tuberculosis. Climate, hygiene, and sanitation.

ARMY MEDICAL BOARD FOR THE STUDY OF TROPICAL DISEASES.

The work of this board during the year has been a decided stimulus to those engaged in solving the problems connected with tropical diseases, and has been a direct aid in dealing with certain investigations. One of the members, Lieut. H. J. Nichols, served in the Taytay hookworm commission, and Capt. James M. Phalen accompanied the Bureau of Health parties on the leper collecting ship, the steamer *Basilan*, and rendered much assistance in making diagnoses. He also did considerable work in connection with the etiology of the lesions as found in the terribly scarred and disfigured persons who have been frequently classed as lepers, or who were thought to be syphilitic, in collecting evidence which tends to show that many of these cases are possibly a third stage of yaws.

The wide activity and usefulness of this board can be seen in detail by consulting the reports made to the Surgeon-General of the United States Army, and the contributions to the medical journals.

PHILIPPINE GENERAL HOSPITAL.

The constant agitation which the medical men of the Islands have waged so many years for a modern hospital, was definitely recognized in last year's appropriation bill, and it is now satisfactory to report that at the close of the year a greater portion of the buildings are actually under roof, and not many more months should elapse before the institution will be ready to receive patients.

The question as to whether the hospital should be managed by the Government as a separate bureau or institution, or whether it should be conducted as a division of the Bureau of Health, was practically settled by the last Legislature when it appropriated ₱100,000 for equipment, and other amounts, directly to the Bureau of Health. This institution will now be managed and known as the "Philippine General Hospital Division" of this Bureau, and the services furnished by the Civil Hospital will be merged with it, so that before another year passes, the Civil Hospital will have ceased to exist as such.

Placing the management of this institution under the Bureau of Health will add enormously to the large amount of work which is already being done by the Bureau; the purchase of the equipment and superintendence of the final completion will alone cause as much labor as is done by many Bureaus of the Government. With this additional weapon, however, the Bureau will be in a still better position to combat disease and meet the problems which confront it.

It is satisfactory to report that a careful study of the new hospitals constructed within the past few years both in Europe and America shows conclusively that the Philippine General Hospital will be one of the most modern of its kind and a great credit to the Philippines.

MUNICIPAL HEALTH SERVICE.

During the past year the real weakness of the municipal health service was brought most forcibly to the attention of the Bureau. During the early part of the cholera outbreak in the Province of Pangasinan an effort was made to have the disease combated by the local boards of health, in order that each municipality might be impressed with the responsibility which confronted it. In a few municipalities the measures were promptly and effectively carried out, but in the large majority there was nothing but apathy and indifference, so that the municipal health officer, even if he happened to be efficient, was unable to accomplish anything. At times when the prompt isolation of a case of cholera and the disinfection of a stool would have saved a town from an invasion of the disease, the factional disputes would be such that the municipal council could not be convened for lack of a quorum, or it would decide that guava water was a more desirable disinfectant than carbolic acid, or some other obstructive tactics would be indulged in. In other instances, the health officer happened to be *persona non grata* through religious, political, or personal differences. One of the weapons of persecution was the reduction of salary to the lowest possible limit.

So long as the municipal health officer is dependant upon one or the other faction of a municipality for his position, an entirely impartial official can not be expected. In view of the foregoing, it is believed that methods similar to those which have recently been put

into force in Cuba will have to be adopted in the Philippines if an efficient and economical municipal health force is desired.

Each municipality should have a health officer, or acting health officer, appointed by the Director of Health and paid from the Insular Treasury, the Insular Government to be reimbursed for the amount of salary paid. If no licensed graduate of medicine is available for the position, or if the town is too poor to pay a salary which would attract an efficient man, several municipalities should be combined into a health district as provided for by law. There should be as many provincial sanitary inspectors as there are municipalities. These should be appointed by the Director of Health, paid from the Insular Treasury, and the Insular Government reimbursed by the provinces. One of these inspectors would ordinarily be stationed in each municipality, but they could be concentrated anywhere in the province to combat communicable diseases or insanitary conditions, subject to the order of the Director of Health, or the district health officer with the approval of the Director of Health. They could be used as municipal health officers when necessary.

The municipal police can be used as local sanitary inspectors for house-to-house inspections. This duty is not inconsistent with their other duties; in fact, it is a distinct advantage in the maintenance of public order to have the police patrolling the barrios rather than setting idly in the *presidencia*. Each municipality should be divided into subdistricts according to the number of police available, and in time of threatened epidemics a provincial sanitary inspector should be placed in charge of the police acting as sanitary inspectors.

One other very necessary thing in municipal organization is transportation for the health officer or sanitary inspector in charge of the house-to-house inspections. The municipality should furnish this transportation, as the efficiency of the house-to-house inspection depends upon the ability of the inspector in charge to move rapidly. This transportation would also serve to carry the health officer and quarantine guard to a suspicious case with the promptness necessary in preventing the spread of contagious diseases. Prompt visiting and quarantining of suspicious cases is one of the primary requisites of a successful cholera campaign, and it is necessary to separate from the service any health officer who does not answer with alacrity a summons to visit a suspicious case.

MEDICAL AID IN THE PROVINCES.

Medical men are still reluctant to leave the large cities like Manila and settle in the provinces. A persistent effort has been made in every legitimate way to induce better qualified medical men to locate in the more remote districts. Several years ago an Act was passed whereby two or more municipalities might be combined into one municipal health district and thus be able to offer a more attractive salary. Quite a number of

medical men then located in the provinces as a result of this inducement, but unfortunately it is still a fact that there are many sections in the Philippines where no skilled medical aid is available and where many persons succumb to injuries and afflictions that could be easily relieved. Much has been done toward extending relief to this class of persons by furnishing medicines and medical supplies gratuitously to missionaries, school-teachers, and other kindly disposed persons, who extend aid to the sufferers. During the year a brief set of instructions was prepared for the use of persons who were not familiar with the administration of simple remedies, and in this way it has also been possible with the free medicines sent out to extend relief over a greater area and reach more people.

HEALTH CONDITIONS IN THE MORO PROVINCE.

The Moro Province is organized under a special Act of the Philippine Commission and is governed somewhat differently from the other provinces which are organized under the Provincial Code.

The province is divided into five districts and each district into a number of municipalities. The health organizations consist of a provincial board of health, five district boards of health, and several municipal boards of health. The law is so framed that the responsibility for the character of the services in health lines lies almost entirely with the provincial board of health, which as at present organized, has no medical member. The provincial board of health, while practically independent, nominally exercises its powers under the direct supervision of the Bureau of Health for the Philippine Islands. This relationship in law is undoubtedly responsible for the belief that the central Bureau should assume a portion of the financial responsibility, especially in the care of the insane and lepers of the province.

To bring the health organization of this section of the Philippine Islands in conformity with that of the provinces governed under the Provincial Code, this office has recently submitted the draft of a proposed law to the honorable the Secretary of the Interior. If this bill passes, boards of health will be supplanted by health officers, except in municipalities, and the province will be in line with the central Bureau and with the trend of sentiment among health officers.

THE PHILIPPINES CARNIVAL.

The second Philippines Carnival was held in Manila from the 2d to the 9th of February, 1909. Following the precedent established last year by Capt. Percy L. Jones, Medical Corps, United States Army, the Sanitary Code was adopted as a basis for the Carnival requirements in health lines.

The Carnival Association was represented by Captain Ruffner, Medical Corps, United States Army, and the Bureau of Health by Dr. Paul

Clements. The actual sanitary measures were instituted by J. C. Mehan, chief of the department of sanitation and transportation of the city of Manila, and by Will L. Doud, superintendent of sanitation for the city of Manila, who carried out their part of the work so well that this feature of the Carnival was a success in every particular, and created no friction whatever. Only those having immediate business with the sanitary board knew of the existence of such a board.

The disposal of excreta, the removal of garbage and waste, the supplying of distilled water, the inspection of foods and drinks, the preparation for accidents, all were carried out so thoroughly and systematically that scientific sanitation may be said to have again demonstrated its value in preventing disease and unnecessary suffering.

PROVINCIAL SANITARY REPORTS AND STATISTICS.

The Bureau of Health has been collecting provincial sanitary statistics since 1903, but not until within the period covered by this report has it ventured to publish any part of such reports, as, on account of their manifest inaccuracy, they could not be relied upon.

As stated in last year's report, an elaborate system of municipal and provincial sanitary reports has been maintained more for the sake of education than for their practical value.

With the view of making a start in this matter, the provincial statistics are included this year, and can be found in the statistical portion of this report. It is evident that the figures are far from accurate, because it is believed that the average provincial death rate is over 40 per thousand.

EMBALMERS.

The number of embalmers in the Philippines is rather limited, with the exception of those in the Army. The former customs of the country with regard to the disposal of the dead practically excluded the embalmer until the advent of the Americans, when it became necessary to practice the art of embalming for the preservation of bodies of the soldier dead for shipment to the homeland.

In Spanish times the practice was to deposit the body in rented graves or in leased niches, the lease period being usually for five years. When the time expired, unless the lease was renewed by another cash payment, the bones were thrown out, or in the case of the well-to-do, removed to their final resting place under the basement floor of a church. The remains of Spaniards were frequently shipped across the sea to be deposited in the churches where the deceased persons in infancy had received the sacrament of baptism. Now, however, the shipment of bodies to the United States and to other countries is a frequent occurrence, and this Bureau finds that the work of inspection which has for its object the transfer of bodies under sanitary conditions increases from year to year and considerable difficulty is experienced in finding persons with sufficient training to do the embalming properly.

ESTEROS (CANALS).

Owing to the small appropriations that have been made, the important work of dredging the esteros has not been as frequently done as it should have been. Last year the estero San Sebastian was the only one which received any attention. The dredging of the estero was done by hand, the mud being conveyed to certain city property adjacent to Plaza Carmen in bancas and deposited there, and the land which had been a mud hole was soon ready to be utilized as a stone depository for the city.

After months of waiting and after many vigorous protests against their present condition, some dredging was finally done during the latter part of the fiscal year. Much delay was caused by the settling of a dispute as to whether a certain part of an estero was a navigable stream and therefore under the jurisdiction of the Bureau of Navigation, or whether the duty of cleaning it devolved upon the city of Manila.

NEW WATER SUPPLY.

The following report of the opening of the new water supply appeared in the Manila Times of November 13, 1908.

Yesterday at 4.30 p. m. Gov.-Gen. James F. Smith turned the wheel which opened the gates that gives to Manila an additional supply of 50,000,000 gallons of water.

In addition to the new reservoir Manila has the old Deposito with a capacity of 15,000,000 gallons, while the pipe line from the dam at Montalbon is capable of turning in 22.500,00 gallons of the new supply every twenty-four hours.

The pressure on the old line during the day at the City Hall was about 12½ pounds to the square inch, although at 2 a. m. when El Deposito was full and but little water being used the pressure would reach 30 pounds to the square inch. This morning, with the new water supply turned on, the Manila mains have a pressure of from 45 to 55 pounds to the square inch, giving a supply of 100 gallons of water a day for every man, women, and child in the city.

At 3.15 p. m. yesterday the Municipal Board and invited guests left the City Hall in a special car for San Juan del Monte. Among others in the party were Governor-General Smith, Commissioner Worcester, Commissioner Gilbert and wife, Assistant Engineer Hubbell and wife, the procurator-general of the Dominican Order which donated the land for the reservoir and his secretary, and representatives of the press.

On reaching the San Juan loop the party transferred to ambulances furnished by the city and completed the journey to the reservoir where a large crowd of citizens had gathered to witness the opening exercises.

In the gatehouse Major Case, chief engineer of sewer and waterworks construction, made a short address in turning over the reservoir to the city, and at the close of his remarks handed over the keys of the gatehouse to Felix M. Roxas, President of the Municipal Board.

President Roxas replied to the speech making special mention of the advance made by Manila in being able to furnish such an additional supply of excellent mountain water to the citizens, and at the close of his speech designated Governor-General Smith as the proper person to turn the wheel that would open the flood gates of the new reservoir. The Governor-General took the wheel with a will and soon the rush of water could be heard beneath the gatehouse as it passed into the city mains.

Refreshments were then served and shortly after 5 o'clock the party started on the return journey, leaving the wagons for the special car at the loop.

The reservoir is rectangular in plan and measures 509 by 764 feet and is 20 feet deep. Its capacity is 50,000,000 gallons. Its construction involved the excavation of 275,000 cubic yards of material, the placing of about 9,000 cubic yards of concrete, and the use of about 20,000 pounds of steel.

The gatehouse, inlet, and outlet are so arranged that water may be drawn directly from the headworks, directly from the reservoir, or from both at the same time.

The water surface is 140 feet above the datum plane of the city, and the pressure throughout the city will be about 20 pounds per square inch more than at present.

The water is carried from the headworks to the tunnels by means of a riveted steel pipe line 42 inches in diameter, 10½ miles long.

The dam is 400 feet long on the crest and about 85 feet in extreme height. It is built of cyclopean masonry, or concrete in which large stones are embedded. Behind the dam will be a storage basin which will serve the city during the dry months when the discharge of the river is less than that necessary for the supply.

The cost of the completed work is about ₱3,000,000 as far as the Deposito, and the distribution system to be installed throughout the city will cost about ₱1,000,000 additional.

THE NEW SEWER SYSTEM OF MANILA.

The installation of the new sewer system for the city of Manila ranks second only to the new water system above mentioned, is one of the most costly of permanent sanitary improvements that has been completed since American occupation, and ranks easily among the best installations in the Orient. It also furnishes a most striking example of the different method of sewage disposal in Manila as compared with other large eastern cities. Here the removal of night soil is a source of great expense to the Goverment, the installation of the system having cost ₱3,300,000, and the annual operation charge will be at least ₱150,000, almost half of which can be credited to night soil; while in cities like Hongkong or Tokyo there was no charge for installation, and there is an annual revenue of about ₱75,000 (Mexican dollars) and ₱3,000,000 (Mexican dollars), respectively.

The contractors turned the new sewer system over to the city on May 25, from which time up to the close of the fiscal year there were 34 connections made.

The ordinances which will prescribe the rules and regulations which are to govern the questions as to who, when, and how connections are to be made, have been receiving most careful consideration since April. Every effort is being made to have the system universally used without causing actual hardship. It is obvious that there will be many instances in which a person may have sufficient means to construct a house which would comfortably meet his needs, and which would cost perhaps ₱300, but in order to install the necessary sanitary fixtures which could be safely connected with the new sewer system, an additional outlay of

a similar or even greater amount would be necessary. This is a condition which obviously must be met.

A complete technical description of the system will be found in the annual reports of the Municipal Board, but the following may be of interest:

The sewers range in size from 20 centimeters to 1.75 meters, and the slopes are sufficient to warrant a velocity of not less than 65 centimeters per second when flowing one-half full. The minimum depth is 1.5 meters, and the maximum depth is 5.4 meters.

Five substations are required to give the system the flow mentioned above. and are located as follows:

	Gallons per 24 hours.
Ermita, with a capacity of	5,000,000
Santa Cruz, with a capacity of	12,000,000
Quiapo, with a capacity of	5,000,000
Malate, with a capacity of	2,000,000
Paco, with a capacity of	800,000

These pump the water to the main pumping station, which is located on the beach in the lower part of Tondo, the latter having a capacity of 25,000,000 gallons for twenty-four hours. The main station has a lift of approximately 8.8 meters, and discharges into the bay through a 1.05-meter cast-iron force main laid 3.05 meters below the bed of the bay, at a point approximately 1½ kilometers from the shore. This pipe terminates in a vertical position, which was done for the purpose of making the discharge take place above the bottom of the bay. This outlet end is encased in a huge block of cement masonry which rests upon a timber platform supported by a group of piles.

Branches or outlet pipes have been provided at intervals of 12 meters throughout practically the entire sewer system. This system will be ventilated by omitting the vent pipe and continuing the soil pipe and vent stack of each house connection full size through and above the roof. Flush tanks with suitable connections to the water system supply have been constructed at the ends of the primary lateral sewers for the purpose of keeping them clean and in a satisfactory condition. These tanks have been built to hold about 1,320 liters of water each and are provided with gates and handles for operation by hand. This feature is unique and has been introduced for the first time in Manila.

The pumping plant consists of centrifugal pumps driven by electric motors, and are supposed to be automatic, the rise and fall of the sewage in the sewer starting or stopping the pumps as occasion may require.

Some idea of the magnitude of the contract may be gathered from the fact that the excavation alone represented 260,100 cubic meters and the iron pipe used weighed 2,180 metric tons and measured 2½ kilometers. Of this there were 1.9 kilometers of 1.05 meter pipe used for the outfall and sewer in the bay and the balance of from 0.2 of a

meter to 0.6 of a meter. The concrete used in this construction was represented by 30,600 cubic meters and in this work over 50,000 barrels of Green Island cement were utilized. All the main sewer was constructed of concrete as were over 900 manholes and 265 flush tanks for flushing the entire system. The length of the main sewers is approximately 12.87 kilometers built in egg shape.

Over 1,530 cubic meters of brick masonry were laid in the manholes in which over 1,200,000 bricks were used. The terra-cotta pipe laid covers in all over 68 kilometers varying from 0.2 to 0.6 of a meter.

For bracing the excavations alone, the company utilized over 1,000,000 feet of lumber which gives some idea of the extensive operations under way at one time throughout the city in order to make headway, meet every requirement of the contract, and at the same time not impede traffic in the city streets.

ARTESIAN WELLS.

The movement for artesian wells has received a greater impetus and more wells have actually been bored and the water therefrom made available for a larger number of people during the past year than has been the case at any similar time in the history of the Islands.

The Bureau of Public Works has sunk 11 wells with a deep well rig, and 40 with a jet rig. The provinces are commencing to purchase outfits of their own and have probably put in as many wells during the year as has the Bureau of Public Works. Bulacan and Pampanga take front rank as the provinces that have accomplished most in this direction.

As yet there is too small a per cent of the population in each town using the water from the wells for any appreciable reduction to be expected in the death rate. But there can scarcely be two opinions with regard to the fact that the great bulk of the water used in the past has been unfit for drinking purposes, and that the health among those using artesian water will be very much better than among those who are not using it.

The widespread public interest aroused is a most encouraging sign and augurs well for better hygiene and sanitation in the Philippines.

"LA PROTECCIÓN DE LA INFANCIA."

This society is the "Gota de Leche," which was organized October 7, 1907, under another name.

The original plan adopted was to divide the infants into three classes: those of the wealthy families being assigned to the first class; those of the middle class to the second, and those of the poor to the third. The milk distributed to all infants was identical, the classification being solely for the purpose of fixing a graduated scale of charges for those who were able to pay. At the beginning there were two infants of the first class, seven of the second, and ten of the third. It was soon discovered that class distinction would cause friction, so on December 1, 1907, it was resolved to abolish the classes and to divide the applicants

into two categories, the needy and nonneedy, the latter paying 50 centavos a day, provided that the infant does not consume more than 800 grams of milk, and 75 centavos if that amount is exceeded. The needy pay 5 centavos a day regardless of the amount consumed by the child.

The issue of milk is made daily from 3 to 5 p. m., and every Tuesday, Thursday, and Saturday the infants are examined by the physicians and their respective weights and conditions recorded.

Mothers who fail to send their infants to the consulting room for three consecutive weeks without a valid reason are dropped from the list and deprived of the benefits of the society.

The total value of the milk issued during the first year of the existence of the society amounted to ₱3,145.90.

The consulting faculty occupies two departments of the building and has a spacious waiting room provided with benches for mothers waiting their turn, and a special room for consultation and for the weighing of the infants. Both in the waiting room and in the consultation room cards containing "Advice to Mothers" in Tagalog and Spanish are distributed.

One important feature of the work in this institution is the talks to mothers by the physicians on infant hygiene.

When an infant is presented, a minute investigation is instituted to ascertain why the mother desires to be supplied with milk from "La Gota de Leche;" if no good reason is found why the material or wet nurse lactation, when the latter method of nourishing the infant is pursued, should not be continued, an effort is made to have the mother or nurse continue the lactation by pointing out to them the advantages and superiority of this method over any other. In this way many are persuaded to continue nature's method. If it is decided after examination to enter the child, its name and history is inscribed in a register, and the number by which it is to be designated is noted on all papers, tickets, baskets, and other articles pertaining to it. The mother is then instructed as to the manner of administering the milk, the careful system of observation to which the child is to be subjected, and the number of times that it is to be taken to the consulting room every week. She is given a little pamphlet setting forth the principal facts of the history of the case, including the weight and condition of the child at the time of entry, together with such instructions as are to be followed and health maxims to be learned. The child's clinical slip remains on file in the consulting room. This slip is modeled after that employed by Doctor Budin of Paris, and upon it are noted all pecularities, affections, and other characteristics that have been observed.

The nourishment ticket is a pasteboard card on which is entered the number of the nursing bottle, the quantity of milk which it will hold, and the proportion in which milk, water, sugar, and other ingredients should be mixed. To ascertain the quantity of milk which should be

taken by any infant at each feeding, the number of such feedings, and the degree of dilution, if any, that is required, due consideration is given to the age and weight of the child and to the condition of the digestive organs, following the method of Terrion.

The laboratory of this institution is located in a spacious room, well lighted and ventilated, which communicates with the waiting room by means of a window through which the basket containing the nursing bottles are handed out to those who come to get them. At one end of the laboratory there is a small room which serves as a receiving and drying room for flasks. Within the laboratory are installed the sterilizing apparatus, the freezer, the water filter, and other appurtenances of this class.

The milk used is from Australian cows and great care is exercised to obtain it pure and free from all contamination. The cows are kept clean and before milking both the udder of the cow and the hands of the milker are carefully cleaned and afterward washed in a disinfecting solution. The milk is received in sterilized zinc receptacles furnished by the institution. These receptacles have movable covers in the shape of a funnel, with two disks of wire netting which are adjusted by means of powerful friction within the funnel; between these disks there is a layer of steam sterilized cotton which arrests and filters out all tangible impurities such as hairs and dust-carried particles which might gain entrance during the process of milking.

Immediately after the operation of milking, the receptacles are carried to the refrigerator of the laboratory where they remain in a suitable temperature until the time for the preparation of the milk for issue.

According to repeated examinations made at the Bureau of Science, the average constituent ingredients of the milk used are as follows:

	Per cent.
Water	85.172
Fat	4.360
Solids (not fat)	8.506

"Other constituents the difference."

All the glassware employed, such as bottles, graduated glasses, tubes, and the like, are sterilized in a boiler of large dimensions with a mechanical elevator. The cotton for filtering and all metal ware are hermetically steam sterilized. For the milk the Sobxlet apparatus made by the Gentile factory of Paris is used. At present there are eight of these installations fed with petroleum and having a joint capacity of 400 flasks.

The sterilizing process is as follows: All flasks or bottles from the outside, even though clean when brought in, are passed through lye and then through a bottle-cleansing machine until they are perfectly clear and transparent. They are then taken to the drying-racks. Those that were cleaned the previous day are taken from the racks and steril-

ized in the boiler and used for the preparation of the milk for that day. Once the milk has been put into the flasks in accordance with the entries on the nourishment tickets, the bottles are marked and separated on each tray of the sterilizer by means of a metal tag bearing the corresponding ticket number, thus avoiding all possibility of dangerous confusion in the distribution.

The water in which the cleansed milk bottles are sterilized is kept at boiling point for forty-five minutes. As soon as the bottles are cool, they are put on trays in the refrigerator until used.

The care exercised in the preparation of the milk and the instruction given to the mothers has had a potent influence for good, not only on these who have received the direct benefits of the institution, but in an educational way as well.

The Society for the Protection of Infants deserves better support from the public than has been accorded it. Its mission is to save human life, and it should not be allowed to fail for want of support. During the coming year some financial aid will be provided by the Government through the Bureau of Health, but much additional help is necessary before an appreciable reduction is to be made in the infant mortality.

DIET AND NUTRITION OF THE FILIPINO PEOPLE.

Since the character, physical status, occupation, and evolutionary tendencies of a people are influenced by the food supply of the country, and the ease or hardship by which it is obtained, it is very important both for hygiene and practical medicine, as well as for sociological reasons, that the question should be the subject of exhaustive study. This is especially true with relation to the Philippine Islands, for the reason that the organisms of many of the diseases from which the people suffer are introduced into the body with the food of which they partake. The subject of intestinal parasites is of vital interest to a proper study of the hygienic conditions of the people with whom we have to deal in this country, and, with the exception of the hookworm, it may be said that practically all other intestinal parasites which impair the health of the Filipino people and make them an easy prey to disease find their way into the body by means of the mouth, associated with the food or drink.

Dr. Hans Aaron, assistant professor of physiology at the Philippine Medical School, at the last meeting of the Philippine Islands Medical Association, read a paper on the subject of the "Diet and Nutriton of the Filipino People," from which paper the following abstract is made with appropriate adaptations:

There are two main factors which regulate the heat of the human body; the one is the production of heat by combustion of organic material: the other is the loss of heat which takes place either by conduction

or radiation from the surface of the body, or by evaporation of water from the lungs and skin. There is also a third factor of less importance which is the warmth of the ingested food and of the air inspired. The lower the temperature of the atmosphere, the higher the relative amount of heat lost by conduction and evaporation, while above about 36° to 37° C. no heat can be lost in this way, and only water evaporation can lower the body temperature. The whole heat regulation consists also of a balance between the production of heat by chemical process of combustion (the chemical heat regulation), and the loss of heat by physical means (the physical regulation). It has been known for a long time that cold increases the combustion of food stuffs, and favorably affects metabolism in general.

A person living in an atmosphere the temperature of which is below 30° to 35° C. is accustomed by wearing suitable clothing, to protect the surface of his body against the loss of heat by conduction or radiation. Since air is a very bad conductor of heat, a layer of stationary air protects the body against loss of heat, even if the surrounding air has a lower temperature.

In civilized countries man endeavors to overcome the influence of chemical regulation of body temperature by keeping the skin covered by clothing; the cooler the climate, the thicker the clothing. By means of variation of clothing one may live in any climate under about the same conditions with regard to chemical heat regulation. Man in the temperate zone is in an artificial tropical climate so far as his heat regulation is concerned.

The importance of adipose tissue as a factor in heat regulation should not be overlooked. The Filipino people as a race, on account of the climatic conditions under which they live, do not require the protection afforded by fat; hence, as a rule, there is a complete absence of the adipose tissue layer.

The best method to ascertain the diet of a people is to note the quantity and class of food that man consumes when he feeds himself according to his customs. A second method is to investigate the composition of the rations dealt out to groups of individuals who have no choice as to their food.

By controlling the food given to soldiers, prisoners, hospital patients, and inmates of various institutions, the normal average diet of man can be determined. The standard values for the composition of a normal diet for Filipino laborers based upon the investigations conducted at Bilibid Prison by Doctor Aaron are, protein 75; fat 27; carbohydrates 510; calories 2,676.

The food given daily averages about 75 grams protein. The caloric value of the food is about 3,650. The basis of the nutrition is a vegetable diet consisting of rice, sugar, bread, potatoes, and onions. This food

which is about the same for the different days, gives more than four-fifths of the ingested calories and much of the protein. In addition to the vegetable portion of the diet the prisoners also receive considerable animal food which changes on different days both in protein and caloric value, and produces the variations showing in the following table:

	Protein.	Fat.	Carbohydrates.	Total calories.
	Grams.	*Grams.*	*Grams.*	
Sunday	50	47	463	2,315
Monday	60	28	521	2,640
Saturday	69	46	504	2,773
Tuesday or Friday	74	19	465	2,385
Thursday	82	18	583	2,686
Tuesday	84	23	458	2,486
Friday	89	18	571	2,872
Wednesday	96	21	572	2,934
Average	75	27	510	2,646

Basis:

270 grams rice
45 grams sugar
300 grams bread
About 250 grams camotes or potatoes
50 to 100 grams onions

} **Representing ca 45 g. protein and 2,100 calories.**

In addition, the following, per man on the different days, is given:

Average:

70 grams bacon.
90 grams pork.
45 grams bacon and 90 grams beef.
75 grams salmon.
115 grams fresh fish.
100 grams corned beef and 45 grams mongo.
115 grams beef and 90 grams dry fish.
150 grams salmon and 90 grams mongo.
115 grams beef and 150 grams mongo.
3 grams tea.
or 5 grams coffee.
or 6 grams ginger root.

On certain days, besides the animal food, a native pea called *mongo*, which is exceedingly rich in nitrogen, is given. Finally, a very small amount of tea, coffee, and ginger root is given to the prisoners.

The Filipino is of much smaller size than the American or European; the former weighing about 50 to 55 kilos to the latter 65 or more. This means that the American or European protein standard value has to be reduced by about 20 per cent to make it suitable for the Filipino. The caloric demand of the body depends not only on its weight, but on the extent of its surface as well. The surface decreases only with the second power, while the weight increases with the third; besides the Filipinos are thinner and taller than Europeans of the same weight. These reasons suggest that the demands on the calories may only be about

10 per cent less than the European demands. A comparison of the Filipino prison food with that given to European laboring men shows that the caloric value of the prisoners' food corresponds to that of workingmen in America and Europe performing moderately hard labor, and also in caloric value to the food in German prisons.

The protein content of the food seems even after a reduction of 20 per cent from the standard values, somewhat lower than the average European protein content.

It is known that much less protein in the food is sufficient to maintain life and health, and the values given by Chittenden, who has done the most extensive work in this direction, are considerably lower than the protein intake of the class of Filipinos under consideration. People living on an almost pure vegetable diet always take a smaller amount of protein than meat eaters. The quantity of protein, for instance, taken by the Bengalese in India, according to recent researches by the Medical College of Calcutta, is only 30 to 40 grams of protein for the lower caste, which fact depends on the wholly vegetable diet and not on the tropical climate.

The question as to whether or not the Bilibid Prison rations are a fair sample of the average Filipino diet must be taken into consideration. From the facts observed only approximate values and comparisons can be determined. The most reliable method is to study the protein metabolism. The nitrogen in the urine is a measure of the protein bodies burned by the subject, and in the case of an adult man who works in his customary way and eats his normal food, it is safe to assume that all nitrogen of the protein of food, so far as the protein is digestible, appears in the urine. The systematic investigations conducted by Doctor Aaron showed that the quantity of protein found on the average in the prison food corresponds to the protein intake of the average Filipino workman. He estimated that the average Filipino's food consists of 650 to 700 grams of rice and about 200 to 250 grams of fish daily. Such a ration represents about 70 to 75 grams of protein, 10 grams of fat and 525 grams of carbohydrates. This corresponds very closely in its composition and in its amount of calories from 2,500 to 2,600 with the food in Bilibid.

Not all Filipinos are able to purchase the quantity of fish given above, in which case more rice would probably be consumed and more native fruits and vegetables eaten. With the fish only a small amount of calories are ingested, chiefly proteids. The caloric value of 250 grams of fish would be replaced by 60 grams of rice containing only 4 grams of protein, so that a man eating only rice receives with about 2,600 calories at the highest only 50 grams of protein. In order to get the same quantity of protein as with the mixed food, he would have to consume an immense excess of carbohydrates.

Doctor Aaron suggests that the exclusive use of one kind of vegetable

protein may have some bearing on the prevalence of beriberi if the food be rice, and the development of pellagra if the article of diet be corn.

The question is worthy of the more extended study and research which Doctor Aaron promises to give it.

Briefly, then, the foregoing shows that the food furnished soldiers and prisoners corresponds in caloric value to that of the American or European workman and that the food of the average Filipino workman is lower in caloric value.

DAIRIES AND DAIRY PRODUCTS.

The dairy business has not developed in the Philippine Islands as successfully as was expected. This is due in a great measure to the presence of rinderpest which destroys the cows.

The Legislature made an appropriation to be expended by this Bureau for the introduction of means and measures to reduce infant mortality. It has been decided to invest a portion of the money in encouraging the purchase of goats, as these animals are not so subject to rinderpest, besides being less expensive to keep than cows. If this project proves a success, it ought to be possible to induce each family to keep one milch animal for supplying the needs in this direction.

The records of the custom-house show that the importations of canned milks are increasing every year, notwithstanding the operation of the Food and Drugs Act. The reason for this is that the Bureau of Health caused the discontinuance of several of the insanitary dairies and discouraged milk peddling as it was conducted, and also the great number of milch animals that have been destroyed through the ravages of rinderpest.

The quality of milk imported has been enhanced by the strict inspection to which it is subjected, and by the increased demand for the best varieties.

ADMINISTRATION OF THE FOOD AND DRUGS ACT.

During the past year the enforcement of the Food and Drugs Act in the Philippine Islands has brought to the front many practical difficulties which have shown conclusively that for some time, at least, it will not be possible to carry out the provisions of this act in their entirety until more definite and exact knowledge becomes available, first, of the effects of certain substances upon the human organism, and second, until laboratory methods for examining foods have been still further perfected.

A review of the literature of the world shows that this question is not peculiar to the Philippine Islands but that the same trouble has been encountered in almost every civilized country in which it was attempted during the past year to enforce better standards for food and drugs.

At first sight it would appear that so far as a medical bureau is concerned the only interest it would have in foods would be as to whether they are injurious, and that the matter of substitution, especially of

harmless articles, did not concern it. As a matter of practical administration, however, it will be apparent that it would be folly to charge one bureau with the enforcement of the law which would prevent substitution, and another bureau with the enforcement of the law which would prevent deleterious substances being sold. This double function was specifically provided for by the lawmakers in the Food and Drugs Act and it is for that reason that this Bureau is attempting to protect the consumer against the introduction into food stuffs of deleterious substances, and to afford him security that the article which he buys corresponds within reasonable limits with the description which is given to it.

During the fiscal year which corresponds to the second year of the enforcement of the Food and Drugs Act, 528 samples, comprising foods, beverages, and drugs, were examined under the provisions of the Act. Of these 113 have not yet been reported on, leaving a total of 415. Of these, 202 were found to be neither adulterated nor misbranded, and 213 were either adulterated or misbranded, of which latter but 22 were rejected.

Misbrandings.—More than one-third of the misbrandings are charged against distilled beverages and the remainder were mainly misbranded because of the lack of an English label. Steps have been taken which it is believed will result in the elimination of the latter character of misbranding.

Adulterations.—Adulterations of distilled liquors account for more than half of the total amount. Five samples of lime juice were examined and were all found to be adulterated by the addition of sulphurous acid as a preservative. Glucose was used as an adulterant in some of the flavoring extracts examined.

Rejections.—Three samples of lime juice were rejected as containing excessive quantities of sulphurous acid. Five samples of flavoring extracts were rejected as being adulterated with glucose. Three samples of butter contained boron compound and were rejected. Five samples of asparagus were adulterated by large quantities of tin and lead salts, caused by the action of the contents on the interior of the tin containers. Four samples of tinned meats were decomposed.

Alcoholic beverages.—One hundred ten samples of distilled and fermented beverages were examined during the year of which 63 were whiskies, 14 brandies, 11 gins, 9 wines, and the remainder miscellaneous. Thirty-seven were found to comply with the requirements of the Act and the rest were deficient in the various ways.

Whiskies.—Of the 63 whiskies examined, 36 were of the Scotch variety and the remainder were composed principally of rye whiskies.

Of the whiskies, but 2 were found to conform to the requirements of the Act. Thirty-four samples were artificially colored and flavored, and 27 samples were found to be adulterated by being "stretched" by the

addition of rectified spirits, the substitution amounting to from 40 per cent to 55 per cent in volume, and in addition they were artificially colored and flavored with a view to concealing the adulteration. These 27 samples include the best known, reputable and expensive whiskies, many of the labels of which make statements in direct contradiction to what analyses reveal. There is no objection to the sale of these classes of whisky provided they are correctly labeled.

That genuine Scotch whisky is not commercially impracticable is evident from the fact that two samples of Scotch whisky were passed without conditions.

Of the 27 whiskies other than Scotch (ryes, bourbons, etc.) 4 were found to be neither adulterated nor misbranded; 23 were artificially colored and flavored; 8 were "stretched" by the addition of rectified spirits as well as being colored and flavored. Ten were classed as imitation whiskies and 2 as compound whiskies.

Brandies.—Of the 14 examined but 1 sample was passed. Thirteen were artificially colored and flavored, 2 were "stretched" and 2 were classed as imitation.

Owing to the fact that judicial decisions upon the most important questions at issue are pending in the United States, it has been considered advisable to postpone action until the questions have been definitely settled. No consignments were denied admittance.

Asparagus.—Of 19 samples of canned asparagus examined, 5 were rejected because of the presence of large quantities of tin and lead salts, caused by the corrosive action of the fluid contents upon the interiors of the tin containers. Exporters of asparagus to the tropics should pay special attention to the quality of tin used for packing. Corrosion may be prevented by using enameled cans or perhaps by lacquering the interior surface of the tins.

Butter.—But 3 samples of butter were rejected during the year. Rejections were for the addition of a boron compound as a preservative. The rigid enforcement of the Act has had a most beneficial effect and all fresh butter now being received from Australia, which practically monopolizes the market, is free from preservatives, and furnishes concrete proof that the claims which were so persistently urged, viz., that a boron compound was absolutely essential in tropical climates, were unfounded.

Preserved fruit and fruit products.—A special investigation is now under way to determine whether formaldehyde is spontaneously generated in preserves, especially strawberries, in which sugar is so important a constituent. The collection of samples has taken several months and it is anticipated that much valuable information will be secured from their examination. This investigation may be considered as original research.

Canned milks.—This Bureau is especially interested in the supply of milk for the inhabitants of the Islands. Milch cows do not exist in sufficient numbers to warrant consideration; hence, the public are

dependant upon imported canned milks. The sterilized evaporated canned milks, consumption of which is practically limited to the foreign population and the weathier class of Filipinos, is on the whole satisfactory and free from adulterants. In some few instances their contents of fats and solids fall below standard, in which case they are appropriately relabeled.

Condensed milk is consumed by the poorer classes and is quite extensively used for the nourishment of infants. Repeated analyses have shown that these condensed milks contain added sugar in proportions ranging from 40 per cent to 55 per cent. This is an adulteration and is added for the purpose of cheapening the product. No indication is given on the labels that such an abnormal quantity of sugar is present; yet if the milk is used for the nourishment of infants and invalids, the presence of so large an amount of sugar has an important bearing. Some improvement has been effected by requiring such milk to be labeled as sweetened, the word "sweetened" forming an integral part of the name of the product.

Summary of food and drug inspections.

Article.	Total.	Number adulterated, misbranded or otherwise deficient.	Article.	Total.	Number adulterated, misbranded or otherwise deficient.
Baking powder	3	0	Jellies and jams	4	3
Beverages, alcoholic	110	73	Meats, canned	27	20
Butter	15	4	Milks	19	11
Cheese	18	4	Molasses, sirups	3	0
Coffee	6	1	Sausage	4	1
Drugs	27	26	Sauces	7	4
Fish, canned	43	20	Vegetables	47	17
Flavoring extracts	18	7	Miscellaneous	19	8
Fruits	19	4			
Fruit juices	19	9	Total	415	213
Ham	7	1			

FREE DISPENSARY SERVICE.

Seven free dispensaries have been maintained in Manila by the Bureau of Health; the central dispensary at the headquarters building; one at each of the other four health stations; the San Lazaro free dispensary at the San Lazaro Hospital, and the Civil Hospital free dispensary. In addition to the above, this Bureau has supplied all of the medicines, dressings, etc., for the dispensary of the Philippine Medical School, at which 17,415 patients were treated during the year; the majority of the medicine and medical supplies for the University Hospital dispensary, and the Mary J. Johnston Hospital dispensary, at which 3,940 new cases were treated, was furnished gratis. Medicines were also donated to a number of independent missionaries and other persons, with which relief was afforded to thousands of people.

PUBLIC MARKETS IN MANILA.

Two very important advances in market sanitation were made during the year; first, the desire for revenue which heretofore permitted dry goods, crockery, shoes, and many other kinds of wares to occupy space which should have been used for perishable foods, has been so far overcome as to cause their exclusion from the principal markets; and second, food is now sold only from tables instead of from the floor and filthy inclosed spaces under the tables.

The fact that fresh meat in Manila can only be sold in a public market building has made its inspection effective and has given Manila an advantage which is enjoyed in only a few of the leading cities of the world.

In the report for last year there were mentioned certain measures adopted by the Municipal Board in the matter of the assignment of stands in the Divisoria Market, and the placing of the sanitation of all markets under the department of sanitation and transportation. The administration of three markets, the Divisoria, the Quinta, and the Sampaloc, have also been placed under this department.

These markets were freed from all inclosures and contrivances in which unsuitable food or filth might be hidden from view and concealed; the venders of the same class of goods were assigned to certain sections of the market, and were required to expose all food supplies on tables or pans and not on the floor; drains and receptacles were provided for refuse; the markets were well lighted; suitable tables, pans, racks, etc., were installed, and the premises, tables, and all utensils kept in a clean and sanitary condition. Wares not properly classified as food supplies were excluded from the market.

Venders were required to exhibit receipts for tariff in a clip attached to the stall number, every stall being given a number. Daily reports of the number of assigned and unassigned stalls were submitted to the Auditor for a check on the revenues.

Venders were given the privilege of retaining their respective stalls by complying with certain market regulations, but all unassigned stall space was accessible to the first applicant, and all previously assigned space, which was vacated, was reassigned by means of special agreement, when the circumstances made this procedure advisable.

An ordinance for the proper regulation and establishment of public markets in the city of Manila was passed on April 30, 1908, and as the provisions of this ordinance embodied those features of market administration instituted in Quinta Market, it was made to apply to only that one market at the time of its passage. On June 1, the Sampaloc Market having been enlarged by the construction of a new shed and the space having been arranged along the same lines as was done in Quinta Market, the market ordinance was made to apply to this market as well as to the

Quinta Market. In view of the success of the measures adopted in Quinta and Sampaloc Markets, the Municipal Board decided that the same measures should be adopted in the Divisoria Market, and passed a resolution on April 23, 1909, to that effect.

The question of the food supply of the inhabitants of a city is always an important one, and deserves close and careful study from many points of view, some of which pertain to the proper inspection of food so that no diseased, unsound, or unfit food is sold and consumed; the manner of handling and exposing food for sale; adequate and clean market buildings and fixtures; a proper and just system of assignment of space and privileges of vendors, whereby all dealers or producers of food supplies can have ready access to the public to market their wares; and a proper supervision and control of the marketing of food supplies in so much as can be done to prevent the fostering of special privileges and the building up of monopolies in the sale of certain food supplies.

The welfare of the people in any community demands that they should be protected from dealers of unwholesome food, should not pay unusual or exorbitant prices for food, and should be able to procure their food supplies within the limits of their own community.

The markets of Manila have undergone a great transformation since the advent of Americanism, and when the plans now under contemplation are carried out, Manila may safely place these institutions in her list of attractions.

THE "MATADERO" OR SLAUGHTERHOUSE.

The matadero is the city slaughterhouse where all animals killed in Manila, except pigs and goats not over eight weeks of age, are required to be slaughtered and dressed. All animals are subjected to ante mortem and post-mortem inspections by veterinary surgeons of the Bureau of Agriculture. All meats that are found to be diseased are seized and destroyed.

From the *matadero* the meat is conveyed to the various city markets in special wagons supplied by the city.

Much annoyance has been caused during the past few years by the persistent circulation of rumors to the effect that the meat was conveyed from the slaughterhouse to the market in the same wagons that were used for hauling garbage and night soil. It is, of course, needless to state that no such thing occurred.

DEPARTMENT OF SANITATION AND TRANSPORTATION.

This department is under control of the city of Manila and is charged with the responsibilities of street sprinkling and flushing, street sweeping and gutter cleaning; the collection and disposal of garbage, house refuse, and dead animals; the filling of lowlands; the collection and disposal of night soil and public closets; the administration of the

city pound; the sanitary care of markets and slaughterhouses; the transportation of meat; the care and administration of cemeteries; the maintenance and development of parks, trees and plant nurseries; the care of city walls; the improvement of public grounds; the administration of all land transportation of the city, and the service of this character for the Insular Government.

The collection and disposal of garbage, house refuse, and dead animals is an important branch of the work with which this department is charged, and is carried on principally between 9 p. m. and 6 a. m. The garbage and refuse from dwellings, factories, shops, stables and similar places, are collected by carts which pass along regular itineraries, collecting the garbage and refuse placed on the curbing in separate receptacles as required by city ordinances. The material suitable for filling in lowlands is applied to that purpose, and the garbage, slops, and organic matter find their way to one of the two city crematories.

Dead animals weighing 30 pounds or less are considered garbage and are deposited in the regular garbage receptacles. Those of greater weight are collected in wagons specially designed and constructed for this purpose, and are either burned or sold to factories to be manufactured into trade products.

Night soil is collected by odorless excavators from vaults and cesspools, and by the pail conservancy system from premises where there are no closet systems installed. The collections are emptied into tanks on the steam barge *Pluto* and carried out to sea.

When connections are made with the new sewer system, the work of collecting night soil will be greatly diminished, thus reducing the expenses of the city correspondingly. The completion of the new water system has already removed the necessity of maintaining a pail system at Mariquina for the protection of the water supply.

The pail conservancy system will have to be maintained in the districts of light material even after the new sewer system is in full working operation, both in the public closets and as a domicillary sanitary measure.

The present charge for each pail is ₱2.50 per month or ₱7.50 per quarter, which is rather high for many families to pay. No charge is made for the pail service established in public closets.

The pail conservancy system as it is operated in Manila is a clearly efficient method of sanitation second only to the water-closet system, and might well be adopted in many towns in the United States where earth closets are now permitted.

DUST SUPPRESSION.

Much has been done in Manila during the past few years to overcome the dust nuisance. The department of sanitation and transportation

of the city government has established a very thorough system of street sprinkling for the dry season. Last year this office issued a circular which was put into force by the Executive Secretary in all the public buildings of Manila, in which attention was called to the habit that had formerly prevailed of sweeping the floors without dust precautions while the employees were still at their desks, and the dangers thereof, and attention was invited to the fact that by reason of the prevalence of tuberculosis in the Philippines and of the careless habits in spitting, the dust of offices often became laden with the deadly tubercular *bacilli* which might enter the system by means of the inspired air. The circular enjoined that there should be no more dry sweeping in Government buildings, and required that floors should be thoroughly sprinkled with wet sawdust before they were swept, and that they be not disturbed as long as there were any employees at their desks. On account of the fact that this new method of sweeping was not in accordance with the former custom, some opposition to it developed, but this finally yielded to persuasion, and now the method has been quite generally adopted in public buildings.

This system of dust suppression is recommended to housekeepers and to stores, hotels, and other places where dust continues to be a source of danger.

PUBLIC CHARITIES AND CORRECTIONS.

The public charities of the city of Manila are administered partly under the direction of the Municipal Board and partly under the Bureau of Health; but the bulk of the work connected therewith, even of that which comes under the Municipal Board is done by this Bureau.

The Bureau has its contracts with the Hospicio de San José for the care of orphans and indigent insane, and with the Colegio de Santa Isabel and the Sisters of Saint Vincent de Paul for the care of full orphaned children of the indigent. In these three institutions the Bureau maintains on an average of nearly 500 persons. In addition to this, it has accommodations in its own hospital at San Lazaro for 350 insane and 250 lepers and for 1,700 lepers at Culion.

The city has a contract with the Hospicio de San José for the care and education of juvenile offenders, thus preventing their incarceration in Bilibid Prison where perhaps they would have to associate with professional criminals and receive lasting impressions of a harmful character that would direct them onward in the road to ruin.

The juvenile offenders' school is conducted on the order of the Junior Republic Schools which have been such a factor for good in the United States and other enlightened countries.

Last year there were 63 males and 4 females admitted. They are left in the institution until they have attained the age of eighteen years, and during the entire period of their confinement they are surrounded with the very best educational influences.

MEDICAL EXAMINATION OF IMMIGRANTS.

During the year the medical officers of the United States Public Health and Marine-Hospital Service have examined 7,735 immigrants, with 22 rejections. The number of rejections for trachoma continues to be in excess of that for all other causes.

While trachoma is not an uncommon disease among aliens seeking admission to the Philippine Islands, the virulent form of the malady is extremely rare and those that have it are promptly returned to the port of embarkation.

The principal interest to the Bureau in the incoming aliens consists in the diseases that they develop after they land here; of these, typhoid fever easily stands first, and occurs with much greater frequency among the Japanese immigrants. It is also of interest to note that the percentage of cholera cases among the Japanese residents of Manila is much higher than among any other nationality.

CEMETERIES.

The regulation of cemeteries in the United States is a question which, as a rule, takes care of itself; but in the Philippines it requires the force of legal authority to keep it within proper bounds. When the Americans came, their first messages to the homeland told of the bone piles or *osarios,* and many a bone found its way to America as a relic from this faraway and then strange country. In less than two years practically all the bones in the *osario* of Paco disappeared.

To regulate the improprieties of the *osario* and to have a definite standard by which the claims of rival religious sects and others can be adjudicated, the lawmaking body enacted a special cemetery law adapted from similar ones in the leading States of the home country, to which all burial grounds must conform and under which all interments and disinterments must be made.

During the fiscal year just closed, this office has acted on more than five hundred applications pertaining to the cemetery question. A large number of these applications was for the establishment of new burial grounds. The policy of the Government is that there shall be, whenever practicable, in each municipality a sufficient number and kind of cemeteries, to meet the needs of the communities.

The question has been a difficult one both on account of the general financial depression and the prevalence of religious antipathies between the different denominations, but considerable progress has been made in the way of educating the people to accept the doctrine of a complete separation of the church and the state in everything that pertains to governmental administration. It is quite clearly understood that a cemetery must comply with the requirements of the law whether it belongs to the church or to a municipality, or to a private person, before it can be authorized.

The Bureau has published a set of cemetery regulations which the honorable the Secretary of the Interior has approved, and which thus carry the force and effect of law. These regulations are intended to correct the evils of nonuniform administration and "standardize" the cemeteries throughout the Philippines.

CIVIL-SERVICE EXAMINATIONS.

As heretofore, civil-service medical examinations are conducted by the Bureau of Health and by the United States Public Health and Marine-Hospital Service; the former examines applicants for land positions, and the latter for positions aboard vessels, in which the question of color blindness is of so much importance.

During the year there was a total of 426 physical examinations made at the Bureau of Health, the number passed being 378, or 89 per cent of the number examined.

The following tabular statement will show the number examined in each classification and the result:

Position.	Passed.	Rejected.	Total.
First-class patrolman—American	34	4	38
First-class prison guard	9	1	10
First-class fireman—American	26	0	26
Second-class prison guard	24	5	29
Second-class fireman	47	4	51
Third-class patrolman	79	23	102
Third grade	28	0	28
Third grade apprentice	122	6	128
Messenger	1	0	1
Second grade	4	1	5
Inspector auxiliary	1	1	1
Machinist	3	1	4
Mate—Filipino	2	0	2
Mate—American	1	0	1
Building inspector—American	1	0	1
Building inspector—Filipino	1	1	2
Foreman	0	2	2
Total	378	48	426

Cause for rejection.

Blindness	2
Trachoma	2
Hydrocele and defect of right eye	1
Poor vision	4
Varicose veins	4
Venereal	1
Varicocele	12
Under weight	13
Inguinal hernia	3
Acute conjunctivitis	1
Cataract one eye and underweight	1
Defective hearing	2
Organic heart disease	1
Tuberculosis	1
Total	48

PROMOTIONS.

The policy of the Director of Health has been to promote the employees of the Bureau as rapidly as the conditions of the service would permit, and the claims of the employees would justify. This policy has been recognized by the majority of the employees, but among others an impression seems to prevail that they should be promoted every year or oftener. In order to correct this wrong impression it has been found necessary to issue to all employees the following circular:

An impression seems to prevail among the employees of this Bureau that at the expiration of each year's service they are entitled to promotion. This impression is erroneous. The fact that an executive ruling has been made that promotions should not be made oftener than once a year, does not mean that promotions are provided for at the end of each year's service.

In filling vacancies efficiency and increased worth are the principal elements that weigh with this office in making promotions, and application for promotion made solely because of the close of another year's service can not be considered.

It is the policy of this Bureau always to fill vacancies in higher positions whenever persons with the necessary qualifications can be found among its own employees and those who have rendered good and faithful service can depend upon being recommended for advancement.

BUREAU OF HEALTH MANUAL.

The work of the Bureau of Health has become so extensive and so many employees are located at such widely separated places, that on account of the desirability of having the work uniform and to cause the minimum amount of inconvenience when new employees take the place of more experienced ones, it became evident that readily accessible information and a set of rules and regulations covering the work of the Bureau were necessary in the interest of good administration. To meet this need a manual has been prepared which is now in press, and will soon be ready for distribution.

AMBULANCE SERVICE.

The service during the year has been as satisfactory as could be expected from horse-drawn vehicles, but in order that a still better service may be had, and after making a thorough investigation as to what was being done in the United States and Europe along these lines, it was decided to gradually replace the old ambulances with motor vehicles. For this purpose, one electric ambulance has already been ordered, and if this type of motor proves successful, as many more as are needed will be rapidly secured.

VACCINATION.

There would be no smallpox in the Philippine Islands if everybody would seek the protection that is afforded by vaccination, but there are always sufficient people who evade the vaccinators intentionally or otherwise to keep the infection going. There are many false ideas with regard

to vaccination. It is alleged to produce harmful effects during menstruation, pregnancy, lactation, early infancy, or some other equally absurd reasons are given in protest. These superstitious ideas are frequently respected even by the best of Filipino vaccinators. The practice of hiding cases of smallpox is also largely responsible for perpetuating the disease.

In many municipalities where in the course of time the greater part of the inhabitants have been vaccinated, the disease is limited to the unprotected children who are sacrificed in great numbers in consequence of wrong beliefs. The tiny graves in the cemeteries protest in vain against this form of race homicide, and nothing but education can change the ideas that are too often born of distrust and hatred of those who are seeking to bring about the highest good of the people and to save the race from retrogression and lead them on to that progress and prosperity which alone can make them a strong nation.

The records of the year make further concrete proof of the thorough efficacy of vaccination. For instance, of the 51 deaths that occurred at the smallpox hospital at Manila, *not one person succumbed who had ever been successfully vaccinated.* In the Province of Oriental Negros we have the following for smallpox figures:

	Deaths.
1905	118
1906	127
1907	54
1908	23
1909	2

The records further show that the systematic vaccination of that province was commenced in 1907, and when completed in 1909, the disease was practically extinct.

MOSQUITOES.

Life in the Philippine Islands is blessed with many advantages, and if it has any disadvantages, the presence of mosquitoes in annoying numbers during all seasons must be given a first consideration.

The health authorities in the past have had considerable criticism heaped upon them for not taking more measures looking toward relief from this pest. In explanation of this, attention is invited to the fact that the great source of mosquitoes in Manila are the great tidal swamps which are daily overflowed by the water in the esteros or canals, and on this account it would be nothing more or less than a waste of public funds to attempt the temporary measures for relief which have often proved successful in other countries. Although several millions of dollars would probably be necessary to fill the lowlands and wall the esteros, yet the resulting gain in the increased value of real estate would more than offset the original expense, and the improved sanitary conditions and lowered mortality thus brought about would well warrant the outlay.

However, much local relief could be had from mosquitoes if the householders themselves would destroy the purely domestic breeding places such as rain barrels, buckets, cisterns, tanks and other places directly under their control.

PROVINCIAL AND MUNICIPAL QUARANTINE.

During the past year much difficulty was encountered by the Bureau in preventing the imposition of useless and illegal quarantines. These quarantines were imposed by local health officers under a misinterpretation of their quarantine powers. Quarantine between towns or provinces in the Philippines is often a lazy man's remedy and nearly always is ineffective. There are exceptions, where the topography of the country makes a quarantine feasible and desirable. A quarantine is effective upon the Benguet Road to protect the Mountain Province against cholera in Pangasinan, but an effective quarantine of Manila to protect against cholera in the provinces, or vice versa, is impossible.

Nevertheless, quarantines were imposed without consulting this Bureau in many parts of the Islands by health officers who either misinterpreted the law or chose to ignore it. These quarantines had no other result than to tie up commerce and cause travelers to take a more circuitous route.

Other health officers, who seemed to know of and to accept the Bureau's interpretation of law, besieged the Bureau with requests for quarantines against infected points. The majority of these officers were directed to clean up their towns; to prepare to combat cholera promptly and energetically should it appear; to institute an inspection of arrivals by boat or train without detention or interference with personal liberty; and to observe without detention, for at least five days, all arrivals from infected territory. If such arrivals desired to proceed further they were to be permitted to proceed to their destination, the inspecting health officer to notify the health officer at their destination that these persons came from infected territory.

A few quarantines were authorized after very careful consideration and where there was a probability of their being effective and of value.

To clear up the very confused conception of quarantine powers which local health officers seemed to possess, the Bureau issued the following circular, defining the various kinds of legal quarantines, and the method of procedure to be followed in imposing the same:

Since May 14, 1905, the date of the passage of Act 1340, authorizing the Director of Health, with the approval of the honorable, the Secretary of the Interior, to make and promulgate quarantine regulations for the government of all vessels at all ports of the Philippine Islands, except ports of entry, and by virtue of the last paragraph of section 5 (*a*) of Act 1407, which confers on the Director of Health, subject to the approval of the same authority, the right to revoke or modify any order, regulation, by-law, or ordinance of any local board of health or of any municipality, except the city of Manila, concerning

any matter which in his judgment affects the public health, this Bureau has recognized only three kinds of quarantine as permissible in the Philippine Islands: (1) that imposed by the officers of the United States Public Health and Marine-Hospital Service; (2) that imposed by authority of the Director of Health, with the approval of the Secretary of the Interior; (3) house or place quarantine. While subsequent acts have not deprived municipal boards of health of that power and authority granted by Section 5 of Act 308 to make and enforce such quarantine regulations with reference to their municipalities as they deem necessary, it is held by this office that such measures, however, must have the approval of the Director of Health and of the Secretary of the Interior. This interpretation of the law is sustained by Section 11 of Act 1487, which makes it necessary for district health officers to obtain the aforesaid approval before making or enforcing quarantine measures in their respective districts.

District health officers and presidents of municipal boards of health may impose such house quarantine as may be warranted by the circumstances or by the nature of the disease, without the previous permission of the Director of Health.

Most of the European countries have abandoned maritime and overland quarantine, except where it can be made absolute, and rely on other and more effective means to impede the progress of dangerous, communicable diseases. This is especially true of cholera, since it is positively known that persons who themselves never have the disease may be *bacilli* carriers and disseminate the infection.

It is the desire of this office that no quarantine measures affecting commerce shall be instituted without the previous authority of the Director of Health and the approval of the Secretary of the Interior. Applications for such approval must set forth the reasons therefor and the facilities available for maintaining the measures to be instituted.

The law regulating the question of quarantine is practically all embraced in the foregoing citations with the exception of that which governs the operations of the United States Public Health and Marine-Hospital Service, and its interpretation should be in accordance with this paragraph.

INFANT MORTALITY.

The question of the causes of the high rate of infant mortality has a hearing at nearly every medical meeting that is held in the Philippine Islands. It is discussed by the Commission and by the Assembly. The Bureau of Health and the Bureau of Education are working to improve the conditions; but after all the actual improvement is scarcely discernible. Yet the conditions are no worse here than they are in New York or Philadelphia during the hot months, and it is largely because the hot months in the Philippines last throughout the year that the conditions here appear to be worse. In the abstract, the question is a simple one, because an enormous reduction in the death rate among children could be made if mothers would only see that their children are breast fed or where that is impossible, that sterilized milk is used properly modified, and not permit them to have solid foods or other substances which the infant's stomachs are unable properly to digest.

One of the principal workers along this line is Dr. Fernando Calderon, professor of obstetrics in the Philippine Islands Medical School, who

was a delegate to the International Congress on Tuberculosis at Washington, and was also in attendance at the twenty-sixth annual meeting of the Lake Mohonk Conference where he delivered an address on the subject of "Infant Mortality in the Philippines." Doctor Calderon said in part:

This small population of the Philippines is not increasing, not because of race suicide in its different forms as in other countries, or revolution against Spain in 1896, or war against the United States, or epidemics of cholera, bubonic plague, etc. These causes are removed to-day. The revolution and war are over. The epidemics are checked by the excellent sanitary measures taken, and if cholera breaks out now and then, it is controlled with a very few victims. It is therefore necessary to search deeper for the true cause of this nonincrease of the Philippine population. The true cause you will find to be the alarming mortality among children under 5 years of age.

On different occasions in the past I have given a warning and proved by figures that 60 per cent of the deaths in the Philippines were among infants under 5 years of age, and now, after a more careful study, I do not hesitate to reiterate my former statement.

In my belief, this overwhelmingly high rate in the mortality among infants under 5 years of age is due to the ignorance of the Filipina mothers as to the proper care of their babies. This ignorance will remain, I am afraid, because we do not have charitable institutions as those existing in Europe and in this country—institutions where mothers and girls can apply for instruction and help in order to carry out properly and with success their sacred duty of raising the baby properly.

In the practice of my profession I have had the opportunity of learning through facts the above-mentioned ignorance of the Filipina mothers. We see mothers suffering from tuberculosis nursing their children, thus transmitting the deadly *bacilli* to their tender offspring; mothers suffering from beriberi transmitting, also through nursing, the mortal *bacilli* causing the baby to suffer from a common tropical malady of infants called "taon" which cuts short thousands of lives throughout the Philippine Archipelago.

I can mention many cases like this to show you the real need of institutions which will spread throughout the Islands the true knowledge of the duties of motherhood.

In order to satisfy this need a year ago an institution of the kind mentioned was established through my initiative called "The Protection of the Infant." This institution was organized in the city of Manila under the auspices of the Philippine Womanhood Association, patronized by the American philanthropist, Dr. David J. Doherty, who, with Mrs. Smith, wife of the Governor of the Philippine Islands, organized a social function at which funds were collected to meet the first expenses of the newly born institution. Doctor Doherty has also donated to the institution a building situated in one of the most central localities in the city. Later, Mrs. Gilbert, wife of ex-Congressman Gilbert of Indiana, now member of the Philippine Commission, organized a theatrical show at which funds were collected for the institution.

To these persons we are immensely indebted, because with the funds collected the institution was able to remodel the building, especially the laboratory, which was made larger and was better equipped.

Through the charity of some American and Filipino philanthropists of Manila the institution is further supported by monthly subscriptions. Three doctors give,

without pay, their professional services in this institution, where three times a week a free consultation is held, distributing at the same time, without charge, sterilized milk to thirty babies who are the only ones that the poor institution can take care of.

The results obtained professionally and the records are brilliant. A great number of sick babies have been cured in this dispensary without medicine, but with only advice concerning hygiene and pure sterilized milk in proportion to the baby's weight.

But, ladies and gentlemen, if the professional results are brilliant, the victory in the way of spreading among the mothers the knowledge of modern motherhood is still greater.

Now, coming back to the fact that this institution is able to support only thirty poor babies in the city of Manila of nearly 250,000 inhabitants, we will readily see that this altruism is just a drop of milk in the middle of an immense ocean.

If the American people, and especially those who are interested in the welfare of dependent peoples, could help us financially in the realization of this great work, both countries—America and the Philippine Islands—would have solved one of the most vital social problems in the interest of humanity, especially among the Filipinos, who are to-day sheltered under the wings of the American eagle.

Some time ago Doctor Calderon in an address in this city among other things said in effect:

Instead of bringing before you foreign statistics as to the relative mortality of breast-fed and bottle-fed infants, I would have greatly preferred to present such data taken from the records of the Insular Bureau of Health. Unfortunately, that Bureau was unable to furnish me with them because no such data exist.

In order to cover this deficiency, I desire to suggest with all due respect to the Bureau of Health, the desirability of having separate blanks printed to be used for all death certificates of infants from 0 to 1 year of age, the certificates to have a space in which is to be noted whether the infant was breast-fed or bottle-fed. With such blanks in use it would be an easy matter to formulate such statistical data as might be needed, and these published reports furnished monthly to the local press would speedily bring to the notice of the public, and especially of the mothers, the great difference in mortality of breast-fed as compared with bottle-fed infants, and as the former would always be much lower than the latter, it would serve to stimulate in mothers generally a desire to employ breast feeding in preference to artificial feeding whenever possible.

It is necessary, in fact, that we employ every resource available to inculcate into the minds of mothers the idea that it is their sacred duty to nurse their babies, and that it is not just as good, but on the contrary much worse, to bring them up on the bottle instead of nursing them at the breast.

How often certain mothers evade their moral obligations of nursing their babies for purely conventional reasons, and because they believe in all good faith that it is just as good to bring them up on the bottle!

Every resource is employed, excuses, pretexts, suggestions of every kind imaginable, to convince the credulous husband and sometimes even the complaisant family physician, that it is impossible for them to comply with an obligation placed upon them by nature, and all this in many cases because of the ridiculous fear of becoming thin and so losing their plastic beauty of thin morbid figures, or that an infant would prove a hindrance to their participation in drives,

banquets, balls, receptions, or evening parties; so these mothers abandon their offspring, seek and find diversion in a splendid manner in that flashy society to which they belong.

Again in other cases it is not the mothers. Old women of the neighborhood, those old meddlers who poke their noses into matters that do not concern them in the least, take the unfortunate mother in hand to convince her, which they ultimately succeed in doing, that according to Mrs. So-and-so's experience, it is much better to feed the baby with the bottle as it will get fat so much quicker. They make use of the old fallacy that nursing produces anemia and undermines the health of the person, and, if the mother is weak of character and given to certain forms of amusements to which she looks forward longingly, as is the case with many of her kind, she finds a very heaven in this advise of the old neighbor, does not hesitate nor consult her physician; the baby is put on the bottle, and she gives free rein to her diversions which usually lead her in the direction of *panguingui* (a game of cards). Meanwhile, the poor infant loses weight daily, becomes rachitic, colicky and frog-bellied, and as an attempt to cure it, the child is forced to travel the painful road of sampling every brand of condensed milk known to commerce or to be invented and finally, after having toiled along this indigestible milky way, the little suffering victim finds relief in death.

It is well known that under special conditions it becomes necessary and justifiable to have recourse to artifical feeding, as, when the mother lacks sufficient milk, or because the milk is purulent or otherwise harmful; or because the mother is afflicted with syphilis, leprosy, tuberculosis, beriberi, or other diseases which prohibit nursing. On the other hand, there are mothers of exactly opposite tendencies, who insist on nursing their children after their physicians have told them that it is unsafe for them to do so. They keep on and send child after child into eternity by another and probably less direct route than the first class of mothers.

Then there are some extreme cases who get it into their heads that the milk which the baby receives is insufficient for its nutrition, and who without consulting God or the devil feed the little one to *help out*, as they put it, cooked rice, sauces, potatoes, sweets, and what is worse, shellfish, fruits, bits of meats and other things which its delicate digestive organs can not handle. (This process could also be correctly termed *help into* as well as *help out*, as it effectually helps the little ones *out* of this world and *into* the next.)

The year's work.—Doctor Calderon's address has been quoted from chiefly to emphasize the conditions now existing in the Philippines and against which the health officer has to contend.

For the information of those on the other side of the Pacific Ocean who may read this report, and in order that the American population of the Philippine Islands may not think that they were singled out for an attack, and, finally, to save the feelings of erring mothers in every clime and every land, it should be stated that Doctor Calderon was addressing his own people, the Filipinos. How wondrously alike are the people and the follies of the whole world!

Among Manila's population of 223,542, there were, according to reports, 8,685 births during the present year. During the same time there were 4,600 deaths of infants one year or less of age, the percentage of deaths coming within this age limit to the number of children born being 52.

With regard to the recommendation of Doctor Calderon that statistics be compiled showing the number of deaths among infants that are breast-fed and those that are artificially fed, it may be said that this matter has been brought to the attention of the Bureau upon numerous occasions, and its desirability was long recognized; but after an extended experience of some years with statistical matters, it was believed that figures that had real value could scarcely be obtained. However, in February last the work of obtaining from the parents of each child that died under one year of age a statement as to whether it was breast-fed or artificially fed, or both, has produced, as was anticipated, a set of statistics that must of necessity be so at variance with the facts that it is not deemed advisable to publish them.

The custom of kindly disposed persons giving a child solid food is so prevalent that frequently the child's own mother may not know that her offspring has been so fed and in such or similar cases the data which she herself furnishes are of course unreliable.

The Bureau of Health believes that the best and most permanent results in reducing the infant mortality are to be obtained along the lines of education, and to this end it has persistently furnished data to the Bureau of Education which is used in the school system throughout the Islands, and more particularly in the domestic science courses. The effect of this work is commencing to be gradually felt. It is hoped that this educational campaign will be further aided during the coming year by the appropriation of ₱10,000 which the last Legislature has made for the purpose of aiding societies which have for their object the reduction of infant mortality.

INSTRUCTIONS IN INFANT FEEDING.

In order to teach the important subject of infant feeding in a practical way to Filipina mothers, the Bureau of Education established last year a class in this subject in connection with the Meisic Intermediate School. This class has been taught by a specialist under the supervision of the Bureau of Health. The work of the year was largely taken up in the organization and testing of this new experiment in Filipino primary education which begins with the infant before he is ready for the kindergarten, and has for its chief object the saving of the life for the duties and responsibilties of the incarnate world.

The inauguration of this work was attended by difficulties. To teach the difference between feeding and scientific alimentation is not an easy thing in any country. Miss Ashby, the teacher, invaded an untried field. With one exception all of her subjects had been fed on a single brand of canned milk. The first thing was to determine the quantity and character of the nourishment which the children were receiving. By requiring the parents to bring the saucepan and spoon used in mixing the milk, and

by this and other means carefully estimating the amount of food given, it was ascertained that the proteids ranged from 0.2 to 0.3 per cent, and that the sugar was between 3 and 4 per cent, thus practically showing that the children were being fed on a sugar diet.

The amount of food that should be given depends upon the caloric value of the food and the weight of the child; hence it was necessary to establish a working formula. The composition of all the canned milks on the market was known, and it was a simple matter to estimate the required number of calories per kilogram of body weight, and to multiply this by the child's weight to get a day's feeding, making allowance for whatever flour or sugar that had been added by subtracting the quantity of milk which would give an equal caloric value. For example a child of nine months weighing 8 kilograms requires 58 cubic centimeters of Highland Cream per kilogram; there would be given 8 multiplied by 58 cubic centimeters, minus the equivalent of two dessert-spoonfuls of flour and one of sugar, it having been determined that one dessert-spoonful of flour is equal in caloric value to 13 cubic centimeters of Highland Cream and one dessert-spoonful of sugar equals 27 cubic centimeters of Highland Cream, so that it is necessary to subtract from the original result 53 cubic centimeters before diluting and dividing into the required number of feedings. The pupils learned to make these calculations and prepare the milk with a degree of accuracy that showed their great interest in this important study.

The following table prepared by Dr. Hans Aaron of the Philippine Medical School has been used as the basis of Miss Ashby's work.

For each kilo bodyweight or fraction thereof a child must get the following quantities:

	Milk.	Water.	
		Until third month.	After third month.
Fresh milk:	cc.	cc.	cc.
Cow	170	30	
Carrabalia	75	125	75
Unconcentrated sterilized	150	50	
Concentrated sterilized	65	140	95

Concentrated, sweetened, sterilized milk is unsuitable for babies as one liter corresponds to 3,340 calories, and only 178 calories (less than 6 per cent of the total amount) are delivered by protein, while in rational baby food at least 10 per cent of the total quantity of calories should be delivered by protein.

OBSTETRICAL TEACHING IN THE PHILIPPINE ISLANDS.

In connection with subject of infant mortality, it is fitting that there should be a revival of interest in the conditions which are responsible

primarily for a large proportion of the number of deaths which render the statistics so discouraging. Doctor Calderon has recently returned from an extended trip through America, Germany, Russia, and China, where he made an extensive study of obstetrical teaching, practice, and conditions in comparative relation with that of the Philippine Islands. His conclusions were as follows:

1. That the instruction in obstetrics in the United States is on the same advanced plane as that of the most progressive countries of Europe, and that it would be to the best interest of all Filipino students of medicine who intend to specialize in this important branch to study in the medical schools of the United States.

2. That the instruction in obstetrics is at present very deficient in the Philippine Islands on account of inadequate means for elevating it to the level of progress which it has attained in the United States and other progressive countries, and stands in need of radical reform.

Dr. Calderon recommends:

1. That joint instruction in obstetrics and gynecology be provided for in the new government general hospital now in course of erection, on the same plan that is followed in Germany and Russia.

2. The establishment of a dispensary for pregnant women to which medical students shall not have access, to be in charge of a native woman physician, so that the innate modesty of Filipinos shall not serve as a barrier against their seeking aid and advice.

3. The organization of an outside service for maternity cases in connection with the obstetrical dispensary.

4. The organization of a school for midwives in order to provide trained *comadres* to assist physicians and to help in the great work of education.

5. That the course in the medical schools be supplemented by therapeutical and practical instruction by stereoptic demonstrations during the third year of study, with demonstrations on the manikin, usually an actual fœtus, and that provision be made for the students to visit the obstetrical wards of the hospital for the clinical study of the more important cases.

6. That the work in the fourth year be made more effective by subdividing the classes in the practical study of this branch into smaller classes, so that every student shall have a chance to see and learn, and that special courses in pelvic deformities and obstructions to childbirth be inaugurated and teaching apparatus purchased for the same.

If these recommendations are carried out, the obstetrical instruction in the Philippine Medical School will be on the same plane as that of the most advanced schools of the world, and the results will be measured in terms of human lives and human happiness.

LEGISLATION.

The following laws which directly or indirectly pertain to the interests of the public health were enacted during the fiscal year:

Act No. 1894 passed May 15, 1909, amending Act No. 309, known as the Vaccination Law, provides that presidents of municipal boards of health, public vaccinators, and all other persons authorized to vaccinate against smallpox, shall furnish each person vaccinated by them a certificate to the effect that he has been so vaccinated, setting forth the date of the vaccination, the number of marks made, and their location; and also record the information in a book kept for that purpose. It also provides that the inoculation of any human being with smallpox virus shall be unlawful, whether done directly or indirectly, and provides for the punishment of those who disobey the law.

Act No. 1910 enacted May 19, 1909, amending Act No. 1761, known as the Opium Act, provides that taxes, fines and the moneys collected by virtue of any of the provisions of the Opium Act shall be deposited in the Insular Treasury and shall constitute a fund to be devoted to special purposes among which are the proper hospitalization of opium patients who care to reform, and for the construction of school buildings throughout the provinces and the employment of teachers.

Act No. 1921, enacted May 19, 1909, amending Act No. 397, known as the Pharmacy Act, provides for a number of minor changes in the subjects and conditions of examination, and makes it unlawful for pharmacists to compound prescriptions which are written in cipher or in which there are employed unusual names of drugs which differ from the names ordinarily used for such drugs in standard pharmacopœias or formularis.

Act No. 1925, amending Act No. 1124, provides that in any case where an officer or employee of the Insular Government or of a provincial government is ill at a point remote from a hospital under the control of the Insular or a provincial government, and it appears to the satisfaction of the Governor-General that medical attendance on such officer or employee is necessary to preserve his life, the Governor-General may order any medical officer in the employee of the Insular or of a provincial government to attend such ill person, and, if necessary, conduct him to the nearest hospital for treatment. In case the attending physician and surgeon of a hospital under the control of the Insular or of a provincial government is so ordered to give such medical attention he may, if he shall deem it more advisable, designate in his stead for such duty a competent nurse in the employ of the Government. Provisions are made for the payment of the traveling expenses of employees thus designated, by making them a proper charge against the Bureau or office with which the patient is connected in the case of employees of the Insular Government, and against the Insular Government in case of provincial employees.

Act. No. 1931, enacted May 20, 1909, entitled "An Act to provide for the Establishment of Classes on Training in Nursing in the Philippine Normal School" and appropriating twenty thousand pesos for such purpose, provides that, in order to be eligible for appointment under the provisions of this Act, students must be holders of certificates of completion of the intermediate course in the public schools, and must be at least 19 years of age. The appointments are to be distributed among the provinces, and the students selected are entitled to their traveling and subsistence expenses from their places of residence to Manila, and shall receive during their stay in Manila for attendance at such classes, as compensation of all other expenses, the sum of ₱280 per annum.

Act. No. 1953, enacted May 20, 1909, provides that the family of any leper at

present confined in the Culion leper colony is authorized to deliver to the district health officer of each province once in three months any package or parcels containing foods, clothing, tobacco, letters, pictures, and generally all sorts of documents or papers, and nothing else, to be sent free of charge to the leper member of said family for his personal use, whenever the total gross weight of each such shipment shall not exceed 100 pounds. District health officers are required to receive such articles and give receipts therefor, and ship the packages by first available transportation at the expense of the Bureau of Health.

Act No. 1954, enacted May 20, 1909, makes financial provision for artesian wells in the provinces; for the construction of additional wards at the San Lazaro Hospital for dangerous communicable diseases, appropriating ₱30,000 therefor. An appropriation of ₱11,000 for additions to the Benguet Hospital is also made. This Act also provides for the expenditure of ₱100,000 under the direction of the Bureau of Health for the equipment of the new Philippine General Hospital, the settling for the present the state of the administration of the said hospital.

Act No. 1955, the appropriation Act for 1910, enacted May 20, 1909, in addition to appropriating funds for the general expenses of the Bureau of Health, provides for the establishment in Manila of a dispensary for tuberculosis patients, and for a "shack" camp at Baguio; also for nurses to visit tuberculosis patients in their homes for the purpose of instructing them in the hygienic treatment of the disease.

An authorization to expend ₱10,000, if funds are available, was inserted in the appropriation Act of this Bureau, to be used for the purpose of combating the causes of infant mortality. This amount is really a contribution to the Gota de Leche movement, and will be expended along those lines.

The necessary funds are appropriated for the continuation of the system of training nurses adopted by the Bureau of Health a few years ago, and for the system of hospital internships for the hospitals of the Bureau.

ANIMAL DISEASES.

Since November 1, 1905, when the Reorganization Act went into effect, the veterinary medical service has been operated by the Bureau of Agriculture, but the law transferring the service provided that the Director of Agriculture should cause to be made for the Director of Health such examinations of meat, milk, and other animal products or of animals as may be deemed necessary by the Director of Health to safeguard the public health against dangerous diseases which may be communicated to man by animals or by means of animal products. Pursuant to this requirement all animals that are brought into Manila either from the provinces or from foreign countries are subjected to the most rigid veterinary inspection, and, again at the *matadero,* such animals as are intended for human food have to pass both ante-mortem and post-mortem inspection, and live animals that are not in good condition are rejected. By post-mortem examination those carcasses which are diseased are condemned and cremated.

Animal products such as butter, lard, and milk are also inspected, and if found below the standard, condemned.

The system of veterinary inspections is well organized so that it is extremely improbable that unwholesome animal foods are sold.

ARMY DISEASES.

Notes on typhoid fever, dysentery, and malaria.—In order to give an idea of the prevalence of these diseases among our troops, the following extracts are made from the Surgeon-General's report for 1908:

After charging the deaths to the country in which the disease which caused them was contracted, the death rate among troops in continental United States was 5.63, in the Philippines it was 6.92 and in Porto Rico 14.18.

The slight advantage in the United States rate is mostly made up by the difference in tuberculosis, which was 0.85 in the Philippines and only 0.53 in the United States, but as this disease was perhaps contracted in the United States it is evident that the difference is more apparent than real.

Dysentery caused 0.26 of the deaths in the Philippines, but this is more than offset by 0.47 deaths from pneumonia in the United States and 0.55 deaths from cerebrospinal meningitis, neither of which occurred in the Philippines.

The foregoing figures make additional proof that as the hygienic surroundings of the troops are made to approach those of the United States, the death rate is as low or lower in the Philippines than in the United States.

ALBINISM IN THE PHILIPPINE ISLANDS.

At the instance of Dr. H. Fraser of the Institute for Medical Research, Kaula Lumper, Federated Malay States, Dr. C. H. Usher, of Aberdeen, Scotland, and Prof. Frederick Starr, of Chicago University, this office issued on April 28, 1908, the following circular, addressed to the medical inspectors and district health officers of this Bureau:

In view of the general interest in the question of albinism, information is respectfully requested as to whether albinos have come under your observation, and if so, you are respectfully requested to furnish this office without delay answers to the following questions:

1. The pedigrees of families in which one or more cases of albinism have occurred. The more extensive such pedigrees are the better.

2. All information is desired bearing on whether albinism is or is not the expression of a prevalence of scanty pigmentation in a particular stock. Hence particulars are desired as to color of hair and eyes, fecundity, general physical and mental vigor, and the occurrence in albinotic families of any other defects than albinism.

3. The influence of cousin marriages is of great importance to be carefully followed up.

4. Incomplete family records and particulars of single cases of albinism will also be useful and welcome.

5. Photographs of albinos will be valued, especially albinos of dark races.

6. Incomplete or partial albinism; instances of pied albinism are desired.

The investigators venture to ask whether you will kindly aid the research by sending particulars of any cases. Whilst the information itself will be treated as confidential, full acknowledgement of its source will be made when the subject comes to publication.

Incomplete notes often contain useful information and will be welcome when full records can not be obtained.

As the responses to the foregoing circular were not satisfactory, a supplementary circular was issued on July 2, 1908, as follows:

Judging by the replies that have been received, it would appear that Circular G–13, issued from this office April 29, 1908, has not received proper attention, or that the medical officers of this Bureau are not close observers in the matter of detecting albinos, and compiling statistics relating thereto, as such reports as have been received do not locate a single case. This is most extraordinary in view of the fact that Professor Starr of the University of Chicago, who is at present visiting the Philippine Islands, within a space of three weeks, with no source of information other than those which are open to everybody, has found within a very limited territorial area thirty-five well-defined cases. Professor Starr first applied to this office for information on the questions which were made the subject of the circular cited, and it is not only humiliating, but discouraging, that a stranger, a distinguished scientist though he be, should learn more in a brief visit about a question which belongs directly to the sociological duties of a health officer's work, than all the resources of this Bureau have been able to discover through special investigation, knowledge of local conditions, and the advantage, in many instances, of a long service among the people.

It is requested that another effort be made to supply the information desired in the circular to which reference has been made.

With the first circular there was sent a leaflet prepared by Dr. C. H. Usher, containing information as to the prevalence of albinism and a form for making reports, as follows:

ALBINISM.

Albinism occurs among all races, even the darkest. It appears to be frequent among Malayan peoples. I desire to secure specific information regarding all possible cases. The following will help to render observation definite. When impossible to make a full report, give what you can. The first three items are indispensable.

Report on case of albinism.

Name of subject.

Residence.

Race or tribe.

Hair; color; quality; secure a sample if possible.

Skin; color; quality; blushing? sunburn?

Eyes; color; movement; squinting? myopic?

Carefully draw the iris and color to show pigment distribution, etc.

Disposition and character. Ability in different directions; deficiency in different directions.

Occurrence. Is the case sporadic? If not, give all possible information regarding similar occurrences in the family. Are the parents related? Name all the children in the family in order, marking the cases.

What is the native word for an albino? What is its literal meaning?

What, if any, popular ideas regarding albinos? What do "the people say" about them?

Secure photograph of the subject; where possible, two views—one square front, the other exact profile.

As a result of these circulars, forty-five cases of albinos were reported from seven provinces; Albay, 2; Bohol 11; Ambos Camarines, 5; Ilocos Sur, 5; Manila, 1; Pampanga, 16; Tarlac, 5.

It is not claimed that the figures presented are correct or approximately correct. It is not reasonable to suppose that on the island Province of Bohol, with a population of 269,223, there are 11 albinos; while in the near-by island Province of Cebu with a population of 653,729 there is not a single albino, though it is probably true that albinism is more prevalent in Bohol than in other provinces, as there is more "folk-lore" concerning the condition. The Bohol term for albino is "bulao" from the Visayan word "bulauan" which means gold. Albinos with blond hair and dark skin are called "bugao" (yellow) and those who are entirely white are known as "uguis" (decolorized). In this province there is a tradition of a white people known as Taguibanua (cave dwellers) who once lived in the mountain caves of the island, and the popular belief is that albinos are the result of the mingling of these cave dwellers with the natives.

By some of the inhabitants it is believed that a few of the Taguibanua still exist, and that whenever one is seen by a pregnant woman, an albino child is the result. This latter theory is accepted in the Province of Albay where there also exists a tradition of an ancient white race.

Another theory that prevails in both of these provinces, and more or less in all other provinces, is that albinism is due to some peculiar phase of the moon at the moment of conception.

In the provinces around Manila an albino is known as "anak arao," "child of the sun," from the belief that the mothers of albino children during pregnancy develop a "fancy" for gazing at the sun. This theory is also prevalent to some extent in all parts of the Philippines.

The accompanying table of "Albinism in the Philippine Islands" is presented as evidence of good faith and as a token that this office will continue the investigation of this interesting subject until it can publish a reliable table of albinism in the Philippine Islands.

AMŒBIC DYSENTERY.

Amœbic dysentery still easily retains first place as that disease which is the white man's worst enemy in the tropics. More permanent disability is caused, more time is lost, and more persons are compelled to give up their residence in the Islands and seek the temperate zone than from all the other tropical diseases combined. It has been the most formidable opponent to American occupation of the Philippine Islands that has been encountered, yet it belongs to the class of preventable diseases that could almost always be avoided by adherence to simple hygienic rules. In order to insure absolute safety, elaborate precautions would have to be observed; but it may be stated from a practical standpoint that this disease is almost unknown among those who wash the hands immediately before eating, only drink water that has been sterilized by distilling or boiling and subsequently protected from contamination, and who do not eat in a raw state low-growing garden vegetables like tomatoes, celery, cabbage, onions, and lettuce.

BACILLARY DYSENTERY.

For the first time since the year 1900 when Flexner and Strong made a definite diagnosis of bacillary dysentery from specimens that had been taken from cases that occurred in the Province of Batangas, authentic cases have come to the notice of this office.

During the month of June, however, a severe outbreak occurred in Batangas and Bauan, the diagnosis of which was confirmed by laboratory methods. A similar outbreak occurred in the Island of Romblon, but the diagnosis was not bacteriologically confirmed.

At Batangas it was found that large numbers of officers, their families and the soldiers connected with the garrison were stricken with the disease, and that it was due in all probability to contaminated ice which was supplied to the post. Cultures made from the ice in question showed innumerable colonies of bacteria, and the water taken from the river which flows through the town of Batangas was found to be infected, and the distilled water supply of the post contained flagellates. In the town of Batangas nearly 100 deaths occurred among Filipinos from this cause, and up to the close of the fiscal year three deaths were reported by the Military. In the town of Bauan there also approximately 100 deaths which were ascribed to dysentery.

BERIBERI.

Our knowledge of this disease has been considerably enhanced during the year by the further confirmation by Fraser of the results which were obtained by Fletcher at the Kuala Lumpur Lunatic Asylum, Straits Settlements. It will perhaps be remembered that Fletcher subsisted 123 inmates on rice that was heated in water before being husked, and no cases of beriberi occurred, while among another 123 inmates which were subsisted coincidentally on ordinary rice, there were 43 cases. These figures are significant and the method perhaps explains in part the success which has heretofore been had in dealing with beriberi in public institutions in the Philippines. Upon the appearance of the disease it has been customary to reduce the rice allowance and substitute therefor meat and mongoes. It was presumed that this did good by substituting nitrogen for carbohydrates, but the benefit, in view of Fletcher and Fraser's works, was probably due to the decreased quantity of rice and the lessened amount of poison ingested in consequence.

It has also been the aim during the past few years in public institutions to reduce the amount of rice in the ration and replace it with a more variegated diet, and since that time the disease has practically disappeared in those places in which this was done.

The number of deaths from beriberi reported in Manila during the year was 924, which is nearly double the number that has occurred for some years past. An investigation to account for this condition is now being made. There is a very common belief among the Filipino people

that cholera is invariably followed by a large increase in the number of beriberi cases. In view of the fact that there was considerable cholera in Manila during the past year, it will be interesting to ascertain whether any connection can be traced.

CHOLERA.

Owing to the coëxistence of cholera in Manila and many of the provinces at the beginning of the year, the inspection force of the Bureau was at times inadequate to cover all the infected points. It was necessary to depend upon the district health officers for the enforcement of the measures prescribed by the Bureau for combating cholera. Whenever possible, a medical inspector or a sanitary inspector from Manila was sent to the infected provinces to supervise the carrying out of these measures. Of necessity, cholera-infected provinces were often left in the hands of the district health officer, with varying success. In these instances, telegraphic instructions embracing the cardinal principles of cholera fighting were sent. Unfortunately, some of the district health officers failed to accomplish the desired result, through lack of prompt action and inability to overcome the apathy or obstruction of officials and residents of the infected municipalities. Wherever the principles laid down by the Bureau were carried out with promptitude and energy, cholera was quickly eradicated.

The measures against the disease prescribed by the Bureau were the following:

GENERAL MEASURES.

1. Organization of available force for house-to-house inspection.
2. The securing of a good water supply, or general measures to render the water supply safe.
3. Safe disposal of the feces of the entire population.
4. General disinfection of large areas where the foci can not be located definitely.
5. Campaign of education.
6. Prohibition of certain food stuffs.
7. Enactment of necessary ordinances.

LOCAL MEASURES.

1. Early quarantine of house and inmates.
2. Disinfection of house and inmates.
3. Observation of contacts for five days.
4. Examination of stools of contacts.

Special stress was laid upon the disposal of the feces of the entire population; daily house-to-house inspection to discover cases early; prompt placing and rigid maintenance of quarantine of infected houses; disinfection of infected houses and contacts.

Failure by certain district health officers to suppress cholera was due largely to lack of a provincial organization, to furnish prompt information of the outbreak of the disease, and to a blind dependence upon useless

intermunicipal quarantines imposed illegally by local officials through ignorance of the laws governing quarantines. To correct these shortcomings, the following circular, in addition to that quoted under the subject "Provincial and Municipal Quarantine," was issued:

You are hereby informed that this office will hold you personally responsible for the unreported existence of smallpox or other dangerous communicable diseases in your district.

Repeatedly, rumors of the existence of cholera and smallpox are receivd from private individuals, teachers and others, and upon investigation directed by this office the district health officer often finds that cholera or smallpox has been present for weeks.

It is your plain duty to require of local officials that they report promptly the existence of such diseases, and to transmit such information by wire to this office.

In the event of failure to report promptly, you should take immediate steps to punish offenders. Failure to establish a system of transmitting information promptly will be deemed evidence of inefficiency and sufficient ground upon which to base charges for removal.

If there are towns in your district in which there is no health official, the duty of reporting promptly cases of dangerous communicable diseases may be placed upon the municipal president.

Comparative statement showing provinces infected and number of cases by fiscal years.

Fiscal years.	Number of provinces.	Cases.	Fiscal years.	Number of provinces.	Cases.
1901-2	15	9,538	1905-6	10	5,241
1902-3	34	128,007	1906-7	16	7,085
1903-4	33	23,126	1907-8	16	4,772
1904-5			1908-9	34	28,866

NOTE.—The figures are approximate.

Three distinct epidemics of cholera marked the opening of the fiscal year 1908–9; one in the Island of Luzon, with Pangasinan as a center; one in the Island of Panay, which originated in Capiz but soon spread to Iloilo; and one in the Province of Misamis on the Island of Mindanao.

Pangasinan.—During the month of July, 1908, twenty-five municipalities in Pangasinan were infected. Strenuous work during this month by representatives of this Bureau sent from Manila to aid the local officials resulted in cutting down enormously the infection in all towns, and in stamping it out completely in Calasiao, Dagupan, Malasiqui, Natividad, San Fabian, San Jacinto, San Manuel, Bulangao, Umingan, Urdaneta, and Urbiztondo. During the month of August, the remaining towns were cleared of infection and the entire province was clear of cholera by the end of the month.

Tarlac.—Tarlac was heavily infected in July, especially Camiling and Moncada, but by good work the number of towns infected was reduced to three and the disease was confined to these three municipalities, Cami-

ling, Moncada, and Paniqui. During August these foci were eradicated and the province was declared free of cholera by September 1.

Mountain Province.—Benguet was infected three times in July, twice in August, and once in September, but prompt and energetic measures in each instance prevented any spread of the infection.

Infection from Pangasinan was carried in over the mountain trail to Nueva Vizcaya. This trail furnished an excellent opportunity for effective quarantine. Further infection was prevented by an efficient quarantine of the trails over the mountains.

Ordinarily, land quarantine is ineffective and an unjustifiable restriction of commerce and personal liberty. There are exceptions, however, where the topography is favorable, where quarantine may be effectively placed and maintained. This favorable topographical condition existed in Nueva Vizcaya, Benguet, and other parts of the Mountain Province. The Bureau established a quarantine on the Benguet Road; on the trail from San Nicolas, Pangasinan, into Nueva Vizcaya; on the Aringay and Naguilian trails from Union into Benguet; and on the Candon and Tagudin trails to Cervantes.

It will be noted from the statistics that these trails in every instance led from badly infected towns to the Mountain Province. Infection was kept out of the hill country, with the exception of one infection of Nueva Vizcaya before the quarantine was placed, and which was promptly stamped out by a sanitary inspector from Manila, and the isolated infections in Benguet, referred to above.

Nueva Ecija.—Nueva Ecija had a very severe epidemic in Cuyapo and San Jose. Cuyapo registered 280 cases for the month of July. Medical Inspector Abella from Manila was placed in charge and in August the number of cases in Cuyapo was reduced to 37, and by the end of the month every focus in the province had been obliterated.

Union.—Union was infected from Pangasinan. Medical Inspector Jones from Manila was placed in San Fernando in July. Sanitary Inspector Barron from Benguet came over the trail to Naguilian and did some strenuous work in that municipality. Medical Inspector Clements and Sanitary Inspector Brantigan working in Luna, Bacnotan and other towns of northern Union cleared them of infection and proceeded to Ilocos Sur, where the infection was getting beyond the control of the local authorities. After the departure of Medical Inspector Clements for Ilocos Sur, the local authorities in northern Union seemed unable to profit by the object lesson given and cholera increased rapidly. During August, the only towns in Union which did not show an increasing ratio of cases were San Fernando and Naguilian, where Insular representatives had been working. Early in August Medical Inspector Jones suffered an attack of sciatica which incapacitated him and compelled his return to Manila. Sanitary Inspector Barron was compelled to devote most of his time to the protection of Benguet, so that early in August Union was

left to District Health Officer Ejercito and the local officials. Cholera was finally eradicated the first week in November.

Ilocos Sur.—In Ilocos Sur the same experience was repeated. Cholera was checked in September and the outbreak in Manila necessitated the recall of the Manila men for service at home. The work of completing the eradication of cholera should not have been difficult, but after the departure of the Manila men cholera increased almost immediately, and ran along in Santa, Vigan, and Santa Catalina until December.

In July, Banayoyo, Candon, Nagbuguel, Narvacan, Santa Cruz, Santa Lucia, Santa Maria, and Santiago were infected. The Insular representatives took charge in August. They found the number of cases increasing in every one of the towns mentioned and in addition the infection had spread to Santa Catalina and Vigan. The table of infected towns in this province is instructive. It shows that during July and until the coming of the Insular officials in August, the provincial officials were in charge and were unable to reduce the number of cases in any of the towns except Narvacan and Santa Maria. It shows further that finding twelve municipalities infected in August, the campaign directed by the Insular officials cleared the province of cholera by September 18. On September 21, Medical Inspector Clements returned to Manila. After the departure of Doctor Clements, cholera appeared again in Vigan, one case of September 25 and one case on September 29. From this small beginning, cholera reached a total of 44 cases in October, 60 cases in November and 71 cases in December.

This recrudescence of cholera in Vigan was directly responsible for the epidemic which begun October 1 and lasted three months.

Ilocos Norte.—Cholera was introduced probably from Cagayan. Sanitary Inspector Brantigan was sent to Ilocos Norte to assist the local officials. The best he could do with the assistance available was to hold the disease in check during October and November. Toward the end of December, the last traces of infection were removed from the province.

Cagayan.—Cholera reached the province of Cagayan in September, probably by boat from Ilocos Sur. It was present in October in Tuguegarao, Amulag, Gattaran, and other towns on the Cagayan River. The local health officer at Aparri insisted that the suspicious cases were not cholera but were due to the eating of decomposed fish and meat. The disease spread slowly through the Cagayan Valley and infected several towns in the Province of Isabela. The local health officers were able to prevent any great increase in the number of cases but the infection lingered for months and the number of foci increased during December and January. In February, it was possible to send assistance from Manila. Sanitary Inspector Percy and six assistant sanitary inspectors were sent in February and Doctor Jesus and Sanitary Inspector Brantigan later. The Valley was reported clean by the middle of April.

Pampanga.—Infection of Pampanga was slight but persistent. In

July, Angeles, Bacolor, Betis, Guagua and San Fernando were infected. In August the same, with the addition of Santa Rita. In September, Betis, Guagua and San Fernando persisted. Apalit, Mabalacat, Porac and Sexmoan each registered one case, Masantol had four. In October there was one case each in Angeles, Guagua, Candaba, and Dampol; 10 cases in San Fernando, 1 in Santa Rita, and 1 in Lubao. In December, no cases were registered in this province. In January, February, March, April and May there were a few cases in Sexmoan, Guagua, Betis, and Bacolor, and in June infection still persisted in Sexmoan and Bacolor.

Medical Inspector McKeehan was sent on June 18 to report on the persistance of cholera in Pampanga, and on June 22 Medical Inspector Clements, with eight assistant sanitary inspectors, was sent to Pampanga with instructions to obliterate this focus, which is the only known one at present existing in the Island of Luzon.

Bulacan.—In July, the town of Bulacan had 20 cases of cholera and Malolos had 2. The district health officer was urged to take prompt action to prevent the spread to other towns and to prepare all municipalities to resist the invasion of cholera. Very little was done during the whole month of August by the district health officer, although the provincial board had expressed its willingness to act upon the recommendations of the district health officer if he could get up energy enough to make recommendations. He wasted more time and it was only after receiving peremptory orders from Manila that he secured his provincial sanitary inspectors and placed them on duty. In the meantime, during August Paombong, Baliuag, Quingua, Bocaue, Polo, and Obando became infected, and the infected towns were increased during September by the addition of Bigaa, Calumpit, Hagonoy, and Mecauayan, making 13 infected municipalities in Bulacan for September. The effect of this wide spread infection of Bulacan Province upon the cholera situation in Manila will be noted later on. It was not possible to send men from Manila in September or October, and the number of infected towns in October was 12 and in November 13. In December, 7 towns were still infected and the infection lingered on in Malolos and Quingua until February.

Albay.—Suspicious cases have been reported from Albay during June, and it was deemed prudent to consider them as cholera. Medical Inspector Laughlin was sent to Albay on June 23 to take charge of the district and to investigate these cases. Dr. Vicente de Jesus and sanitary inspectors from Manila were sent on June 30 to aid in suppressing this disease, which will probably prove to be cholera.

Capiz.—Cholera existed in Capiz in March, 1908. During March, April, May and June every support was given to local health officers, including permission to use the thirty vaccinators on duty for the Insular Bureau of Health for cholera work; the district health officer from Iloilo was sent to Capiz to aid in the work; the provincial board of Capiz

authorized the employment of sanitary inspectors; and the Philippine Assembly appropriated ₱1,500 for combating cholera in Capiz. In spite of these efforts cholera persisted and in July eight municipalities were still infected. During August the number of infected towns was reduced, but the infection lingered in the towns of Capiz, Pilar, Dumarao, and Navas. The failure to eradicate the infection in these four towns was responsible for the increase in September and October. Acting District Health Officer Xavier was replaced early in September by Dr. Paulino Quisumbing but he had no better success than his predecessor and Ibajay became infected from Navas and was responsible for the very serious outbreaks later in Taft and Calibo. In addition, new *foci* appeared in September and October in Dao, Panay, and Pontevedra. There were seven municipalities infected in October, 9 in November, 7 in December, 13 in January and 11 in February. The net result of the work of the local officials after 11 months' effort seemed to be an increase in the number of infected towns and the imposition of numerous annoying and illegal inter-municipal quarantines.

Owing to the presence of cholera in Manila and many other provinces, it was not possible to send men from Manila to Capiz. In February, however, two experienced men became available; District Health Officer Montinola, who had been combating cholera in Antique, and Dr. Pacifico Laygo, who had been engaged in a cholera campaign on the island of Cuyo. Doctors Montinola and Laygo were sent on February 20 and were instructed to fight the cholera on the principles laid down by the Insular Bureau, and to dispense with the inter-municipal quarantines. In March, the number of infected towns was reduced to 7 and in April the disease was confined to Panay, Pilar and Pontevedra, and on the 3d of May the last cases were reported in Pilar and Pontevedra and the province declared free from cholera.

Iloilo.—Iloilo was undoubtedly infected from Capiz. The first cases occurred in Barotac Nuevo on July 12, and were not reported until much later. Cholera undoubtedly existed in the interior towns for several weeks previous to its appearance in Iloilo. When it was reported by the district health officer at the end of the month, Barotac Nuevo, Dumangas, Leganes, Pototan, Santa Barbara, Zarraga, Jaro, and Iloilo were infected. In spite of the known existence of cholera in Capiz for months, cholera existed in the Province of Iloilo for weeks apparently without the knowledge of the district health officer, and when its presence was officially announced, he was apparently unprepared to meet the invasion. The epidemic spread rapidly and during August the number of infected municipalities was increased to 22.

It was evident that the district health officer could not cope with the situation and later in August Medical Inspector Laughlin was sent from Manila to take charge of the campaign. In September the towns of Leganes, Alimodian, Arevalo, Anilao, Lucena, Balasan, Estancia, Lam-

bunan, and Niña were cleared of cholera. The number of cases was greatly reduced in the city of Iloilo, Jaro, Dumangas and Zarraga, but new infections occurred in Tigbawan, Guimbal, Miagac, Passi and Sara. In October there were no new towns infected, and the number of cases was reduced still further in Iloilo, Jaro, Dumangas, Barotac Nuevo, Pototan, and Santa Barbara. Cholera was eradicated from Zarraga, Banate, Cabatuan, Oton, and Passi, leaving only fifteen municipalities infected on November 1, and the daily record of cases in each of these towns was enormously decreased.

In November the towns of Barotac Nuevo, Dumangas, Jaro Santa Barbara, Buenavista, San Miguel, and Tigbawan were cleared of cholera and the epidemic can be said to have been suppressed.

During November the infection still lingered in the following towns:

	Cases.
Iloilo	5
Pototan	5
Dingle	35
Janiway	2
Leon	8
Guimbal	52
Miagac	15
Sara	2

The work of eradication was centered upon these remaining foci and during December the entire province was cleared of cholera.

The cases for the entire province by months shows the good work effected under the supervision of Medical Inspector Laughlin in September, October, and November.

Month.	Municipalities infected.	Number of cases entire province.
July	8	138
August	22	1986
September	30	3160
October	20	1346
November	15	233
December	8	52

Antique.—Cholera was reported at Aniniy in August and was introduced by two peddlers from Iloilo, who succumbed to the disease. From August 8 to 14, 3 more fatal cases occurred. Report of these cases was received at the Bureau of Health late in August, and although few men were available for provincial duty, the necessity of providing a man for Antique because of its poverty and lack of local physicians was apparent. The people are very poor and there is not even a *cirujano ministrante* in the province. Doctor Montinola was sent on August 25 to take charge, with authority to employ the necessary sanitary inspectors. He had instructions not only to attempt the prompt eradication of existing foci of infection, but to prepare the towns north of Aniniy

and Dao to resist an invasion of cholera by placing them in the best possible sanitary condition.

As the Province of Antique had no money to carry on such a campaign, money was secured from the Calamity Fund, to be disbursed by the Provincial Board along the lines suggested by the Bureau. It was very difficult to find men intelligent enough to act as sanitary inspectors and disinfectors, and those secured were absolutely ignorant of sanitary work, and much time was necessarily lost in patient instruction of the new sanitary inspectors. Doctor Montinola had authority to quarantine against all boats from Iloilo Province and to place land quarantines upon the mountain trails from Iloilo which pass through Guintas and Sibalom. The sea quarantine was undoubtedly effective but the land quarantine was ineffective because of the number of little-known trails by means of which infected persons from Iloilo Province evaded the quarantine guard at Sibalom and Guintas.

Doctor Montinola found Aniniy, Dao, Sibalom, and Patnongon infected. Sibalom was on the main trail from Iloilo province and reinfection prolonged the existence of cholera; infection was eradicated from Dao and Aniniy in less than one month; in two months Sibalom was also cleared of cholera. Doctor Montinola repeated the same effective work in Patnongon, where the last of the 235 cases occurred on October 27.

On September 10 cholera appeared at San Jose de Buenavista. This focus was obliterated by October 1 but the disease broke out among the harvesters of palay in the various *arrabales* of San Jose, nomadic bands who live under miserable makeshift conditions, moving about rapidly from place to place, seeking employment in the rice fields. These people were very difficult to control because of the miserable conditions under which they lived and their lack of a fixed place of abode, and the cholera persisted in the rice fields of San Jose during October, November, and December, the last cases occurring January 9.

In Bugason the disease appeared on November 25 but the organization was prepared and the outbreak was suppressed in thirty days.

On November 4 Dao became reinfected after being clean for forty days. The same measures again eradicated the infection in twenty-five days.

The harvesters referred to above and the inhabitants of the barrios of San Jose in their ignorance believed that the Insular officials poisoned the wells and they placed placards on the church and public buildings that the reigning disease was not cholera but poison introduced by Doctor Montinola and "los Americanos" under the guise of disinfectants.

The energetic campaign under most discouraging conditions effected the localization of the epidemic in the municipalities of Sibalom, San Jose, Patnongon, Dao, and Bugason. In each of these towns the foci were eradicated in from twenty-five to sixty days, except in San Jose.

The impossibility of quarantining or controlling the small army of harvesters with the means available was responsible for the persistence of cholera in the rice fields of San Jose.

Palawan.—Cuyo was infected from Antique and during the month of September, 39 cases occurred. Dr. Pacifico Laygo and Assistant Steward McDonald were sent to Cuyo because of the absolute lack of physicians or sanitarians on the island. Doctor Laygo arrived on October 24. During October the number of cases reached 63. In November the outbreak was controlled and only seven cases occurred during the entire month. The last case occurred on December 10, 1908.

Occidental Negros.—Occidental Negros was infected from Iloilo, the first cases appearing at Bago, August 6, and at Valladolid on August 7. The district health officer was on leave for his health in Capiz. There was an American sanitary inspector in the province with a party of Insular vaccinators. He did what he could to check the spread of the disease, but the infection appeared almost simultaneously in 12 municipalities. The provincial authorities clamored for a physician to take charge, and as District Health Officer Quisumbing on leave in Capiz reported himself unfit for duty in Occidental Negros on account of his health but was willing to take charge of the situation in Capiz, an exchange was effected September 9 by which Doctor Xavier, acting district health officer in Capiz, proceeded to Occidental Negros, and Doctor Quisumbing remained in Capiz. The district health officer had failed to effect a health organization in his province, and of the first 12 municipalities infected only 4 had *presidentes de sanidad* or sanitary inspectors acting as *presidentes de sanidad.* Only eight municipalities in the entire province had any health organization whatever.

In September, 20 of the 22 municipalities were infected, the 2 uninfected ones being Cadiz and Escalante. In October the towns of Ilog, Binalbagan, Cabancalan, Cawayan, Murcia, Sagay, and San Carlos were cleared of cholera. The infection was stamped out of Manapla on November 2, Pontevedra on November 9, Silay on November 11, and Bago on November 14.

Towns.	Date of last case.
Manapla	Nov. 2
Valladolid	Nov. 7
Pontevedra	Nov. 9
Silay	Nov. 11
Jimamailan	Nov. 13
La Carlotta	Nov. 13
Bago	Nov. 14
Talisay	Nov. 21
Isabela	Nov. 21
Victorias	Nov. 22
Bacolod	Nov. 23
Hinigaran	Nov. 26

The only infection left at the end of November was in Saravia. Failure to eradicate cholera in Saravia was responsible for the reinfection of Sagay and the late epidemic in Sagay and Escalante.

The infection by months in Saravia, Sagay, and Escalante was as follows:

	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.
Saravia	8	44	58	22	19	4				
Sagay		20	11		43	69	2			
Escalante								243	104	3

The outbreak in Escalante in March (243 cases) was severe enough to threaten the neighboring islands. It was necessary to send Medical Inspector Rosario from Manila to inaugurate a campaign along the lines so successfully employed in Manila and other parts of the Islands. Doctor Rosario arrived in Escalante on March 20. From 243 cases in March the number was reduced to 104 cases in April and the last case was reported on May 4. Since that date the province has remained free of cholera.

Cebu and Oriental Negros.—Cebu Province was infected at least seven times; at Cebu, Balamban, Carcar, Oslob and Toledo. The activity and energy displayed by District Health Officer Arlington Pond prevented any spread of the disease and the foci were eradicated almost as soon as discovered.

Oriental Negros is also a part of Doctor Pond's district. Infection of Oriental Negros occurred several times but energetic measures prevented an epidemic. Ayuquitan became infected on May 11 and a slight infection persisted until June 24, when the last case was reported.

Samar and Leyte.—Northern Samar has been regarded as an endemic cholera center for some years. District Health Officer Cullen has been able to either prevent the spread of the disease or to stamp out each new infection in from 1 to 6 weeks. Some of these outbreaks were quite severe; as, for exampe, in Guiuan, which began November 3 and was stamped out December 15, after reaching a total of over 300 cases. During June isolated cases occurred in Calbayog, Cauayan, Dagami, Catbalogan and Tanauan. There is no reason to suppose that these infections will resist longer than previous infections of this province.

Doctor Cullen has charge of Leyte also and he was able to repeat the good work done in Samar, although a slight infection persisted in Tacloban from November 19 to January 14, with a total of 100 cases. During the month of June, a few cases have been reported at Palo, but it is hoped that the spread of the disease will be prevented.

Bohol.—Bohol was infected from Mindanao, once in July and once in August. These foci were eradicated with no spread of the disease. December 14 Tubigon became infected and in six weeks District Health Officer Villafranca stamped out an outbreak which reached a total of

113 cases. An outbreak in Tagbilaran of 28 cases began January 22 but was promptly suppressed in 10 days. Infection of Dauis, Panglao, and Laoay during February was eradicated without great difficulty. On February 4 an epidemic began in Loon, which reached a total of 334 cases in 10 weeks. The inhabitants and municipal authorities of Loon not only failed to assist Doctor Villafranca in his campaign, but actively opposed his proposed measures. He appealed to the Governor, who by executive order obliged the municipal council to adopt the measures proposed by the district health officer. Almost coincident with this, one of the municipal councilmen who had been most persistent in his attitude that the disease was not cholera, contracted cholera, which was a convincing argument that the health officer was correct in his opinion, and did much to secure effective coöperation from the residents and officials.

After securing proper support, the situation began to improve and the last cases were reported on April 17. Maribojoc became infected in March (8th). There were 59 cases in March and 18 cases in April; the last case occurred on April 13.

Misamis.—Cholera attacked three towns of Misamis during July; Balingasag, Cagayan and Tagoloan. The outbreak was very severe, especially in Cagayan. However, the district health officer succeeded in confining the disease to the three towns mentioned and the epidemic was suppressed early in September, as shown below.

Municipality.	July.	August.	September.
Balingasag	145	16	
Cagayan	597	212	7
Tagoloan	58	59	6

There was an outbreak of cholera in Mambajao in September of 24 cases and another in April, 1909, of 43 cases. The epidemic in Misamis was probably due to infection from the interior of Mindanao and the Moro Province, where rumors of a disease resembling cholera are continually present.

Manila.—Manila was repeatedly infected from the surrounding provinces during June and July, 1908. During August there was an average of about two cases of cholera per day. In September up to the 9th, the average was about 3 cases daily. About this time there was a marked increase in the number of towns infected in the Province of Bulacan. The infection already present in Malolos, Bulacan, Baliuag, Bocaue, Obando, Paombong, Polo, Quingua, and Santa Maria, spread to Bigaa, Calumpit, Hagonoy, and Meycauayan. There was an exodus of panic-stricken fugitives from these Bulacan towns to Tondo and Meisic during the second week of September, and following this a sharp rise in the number of cases in Manila was noticeable. Up to September 11 the

work of combating cholera had been handled by the ordinary Manila force without increase in personnel.

The following table shows the number of cases daily during July, August and September:

Date.	July.	August.	September.	Date.	July.	August.	September.
1	0	2	3	17	0	1	25
2	0	1	1	18	0	0	24
3	0	2	0	19	0	1	43
4	0	0	6	20	0	1	60
5	0	1	4	21	1	1	55
6	0	4	4	22	1	0	38
7	0	1	4	23	0	3	45
8	0	2	5	24	0	4	40
9	0	2	3	25	0	2	44
10	0	2	7	26	2	3	37
11	0	0	9	27	0	6	14
12	0	0	17	28	4	1	18
13	0	3	11	29	3	2	13
14	0	0	10	30	4	5	11
15	0	0	16	31	2	5	
16	1	0	37				

When the number of cases reached 9 on September 11, the probability of an epidemic was recognized. On September 12 the number reached 17, 12 being in Meisic district. Upon investigating this district, it was found that in 18 cholera houses—that is, houses in which cases of cholera had occurred—in every case the closet was in a filthy condition. They had the following combination: Filthy closets, rats, flies, cockroaches, and other insects, and a kitchen immediately adjoining the closet. With this combination, all that was necessary was the presence of the bacilli carrier, who, by using the closet, would furnish the infective material.

Two additional disinfection squads were put to work immediately for the exclusive duty of disinfecting closets, and on the 13th the cases dropped to 11, and on the 14th to 10. On the 15th 16 cases occurred, and 105 additional men were employed. This force was increased as rapidly as possible without causing confusion and disorganization, and by September 22 the complete organization of 500 men was working smoothly. This force was increased by the 25th to 600 men.

The boundaries of the health districts already existing were left unchanged. The office force of each station was not increased, but the field force was enormously increased.

Total personnel, all stations.

	Medical officers.	Sanitary inspectors.	Foremen.	Laborers.	Disinfectors.	Total.
Station A, Meisic	4	2	14	136	5	161
Station C, Tondo	3	1	8	86	5	103
Station I, Sampaloc	2	1	6	112	5	126
Station J, Intramuros	2	2	9	117	10	140
Station L, Paco	2	1	4	58	5	70
Total	13	7	41	509	30	600

NOTE.—This does not include police for house-to-house inspection, nor some 300 men of the city street-cleaning force, who have been assisting in draining the worst places in the barrios, nor the Constabulary for quarantine guards.

Lime squads varied in size according to the district. In open districts, or sparsely settled districts, one foreman could properly supervise from 15 to 25 men. In a district like Meisic, where the houses are crowded together, a foreman could not properly supervise more than 12 men.

One mechanic was assigned to the duty of keeping the disinfection wagons, pumps, and hose in good condition. He traveled from wagon to wagon with tools, thus avoiding sending the wagons in for repairs, which were often trivial and could be made in a few minutes on the spot.

The daily output of disinfectants was enormous, about 75 tons of lime, and about 700 gallons of carbolic acid or its equivalent in creoline, tricresol, or formalin. There was some difficulty in securing enough disinfectants to satisfy this enormous demand. The entire stock of carbolic acid, formalin, and tricresol in the Philippine Islands was used before the end of September. Four thousand gallons of Jeye's fluid (a creolin preparation) was secured from Hongkong and shipments of carbolic acid arrived from Hongkong and Japan in time to prevent the wagons lying idle. Four of the eleven tank wagons might have lost two days on account of lack of disinfectants, but the Director of the Bureau of Science suggested that salt water could be electrolyzed forming a disinfecting fluid which, according to laboratory tests, would kill cholera bacilli promptly. His offer to electrolyze the solution was accepted, and for two days, four of the wagons used this fluid. In a short time all the lime in Manila and the vicinity was used and the entire daily output of the kilns in the Island of Luzon was taken. The lack of lime sometime caused the cessation of lime disinfection at 3 or 4 o'clock in the afternoon, but lime squads were equipped with shovels, hoes, rakes, brooms, or other cleaning-up instruments, and their spare time was utilized in digging ditches, and cleaning up the yards or premises.

Infected districts were subdivided into subdistricts; maps were made of these subdistricts, and the foreman in charge of a disinfecting wagon or lime squad was furnished with a map of his subdistrict. For example, Meisic was subdivided into 20 subdistricts, and Tondo into 14.

The ordinary chemical fire engine makes an excellent disinfecting apparatus. The 80-gallon tanks are charged by CO_2 produced from bicarbonate of soda and sulphuric acid; to make an efficient disinfecting solution it is only necessary to add carbolic acid, creoline, or other disinfectant to this solution. The ordinary street-sprinkling wagon is convertible into an excellent disinfecting apparatus. All that is necessary is to install an ordinary pressure pump, and several hundred feet of hose, put in the disinfectant, and fill the tank from the street hydrant. We used eleven of these wagons and four chemical engines, and they were all effective. The tank wagon possessed the advantage of being cheaper, as the cost of soda and sulphuric acid for charging the chemical engine

is not inconsiderable. In Manila the cost was offset by receiving the services of the chemical engine crew free of charge.

Several kinds of disinfectants were used in the tank wagons. Crystal carbolic acid does not mix readily and requires careful handling in using it on a large scale. Formalin is good but causes a great deal of complaint from the people because of its irritating properties. Crude carbolic acid, in our experience, did not mix well, and from both kinds of carbolic acid, because of irregular distribution in the solution, minor accidents occurred, as burning of the hands and feet of the laborers, and killing of dogs and chickens. The most satisfactory disinfectant was Jeye's fluid, a creoline preparation which we secured from Hongkong. It is nearly fool proof and is very effective. It mixes perfectly with water, forming a milky solution of uniform strength. It does not burn the hands or feet of the laborers or children about the house, and no ill effects upon animals were noted.

The simplest and most effective way to use lime was with a bucket and a ladle. The lime gang of from 15 to 25 men was handled by one white foreman and one native *capataz*. Each gang was followed by a cart with the lime. Each native lime thrower carried a bucket and scoop or ladle. After a little patient instruction, the natives learned to use the lime to the best advantage, to place it where it was needed, and to avoid the spots where it was unnecessary. Their instructions were definite and included liming all closets and places where fecal matter existed or was likely to be deposited.

Each chemical engine was handled by its own crew in charge of a lieutenant of the fire department.

Each tank wagon was in charge of an American foreman, who directed the disinfection, was responsible for the thoroughness of the work, and for the conduct of the six natives who manned the pump and hose.

In giving foremen their instructions, great stress was laid upon the necessity of displaying courtesy at all times. They were instructed to take part in no argument with householders or others, and to do their work with consideration for the feelings of the people, but none the less thoroughly. If actual obstructions were encountered, they were to notify the central office at once. The result of these instructions was that during the whole campaign, the valid complaints were less than a dozen. All complaints were promptly investigated by the Acting Director, and if found to be valid, the foreman in charge was dismissed. Only one case of actual obstruction was encountered; this man refused to permit the disinfectors to enter; he was arrested, fined ₱50, and no further trouble occurred.

The organization was mobile, and concentration of disinfecting wagons from Paco, Intramuros, and Sampaloc, as a reënforcement of Meisic and Tondo, was effected when necessary, with good results.

The general plan of campaign was as follows:

House-to-house inspection by police to discover promptly cases of cholera.

Constabulary guard upon house and inmates to prevent ingress or egress until removal of the patient and disinfection of the house.

Examination of the stools of cholera contacts to find bacilli carriers, the bacilli carriers being sent to San Lazaro Hospital for treatment.

Daily disinfection of all insanitary closets with lime, and disinfection of ground surfaces known to be, or suspected of being, soiled with fecal matter.

An attempt was made to disinfect daily all closets in the strong-material districts, which were not flush closets or which were not kept clean. In the light-material districts, the effort to disinfect the dejections of the entire population necessitated the disinfection of entire districts. It was necessary to disinfect practically the whole ground area. When one considers the enormous area to be covered daily in Tondo, Sampaloc, Malate, and Paco, with their outlying barrios, and the fact that there are over 5,000 insanitary closets in the Meisic district alone, the magnitude of this work may be imagined.

Two general methods of disinfection were employed—(1) the spreading of lime, and (2) disinfection with water wagons, hose and pump, or by chemical engines, containing carbolic acid, creoline, formalin, or other disinfecting material.

Lime was effective in conjunction with drainage in the low-lying swampy nipa districts, and also for disinfecting the bad closets in the strong-material districts. The tank wagons and chemical engines were used for general disinfection of lower floors, outhouses, *patios*, stables, and closets in both strong and light material districts.

Two factors, more than any others, make difficult the suppression of cholera in Manila—first, the existence of bacilli carriers and bad closet facilities or none at all; second, failure to find cases early.

The presence of bacilli carriers makes necessary the safe disposal or disinfection of dejections of the entire population.

The experience of this Bureau in the recent epidemic points to the fact that the most important rôle in the transmission of cholera is played by the bacilli carrier.

If a bacilli carrier be a person of cleanly habits, and if he be in possession and makes use of proper closet facilities, he is practically harmless. But on the other hand, a bacilli carrier of filthy habits, who has no closet facilities, or refuses to avail himself of the public closets furnished him, is the greatest menace to the public health which can possibly exist, so far as cholera is concerned. The demonstration of the fact that over 7 per cent of apparently healthy individuals in the Meisic and Tondo districts were bacilli carriers, coupled with the insanitary

closets of Meisic district and the absence of or failure to use public closets in the nipa districts, will go far toward explaining the dissemination of cholera this year.

Every effort was made to discover promptly light cases of the disease and bacilli carriers. When a case of cholera was found, the house was quarantined until the removal of the patient and until the disinfection had been completed. The stools of the other inmates were taken for the purpose of discovering bacilli carriers. These, if found, were sent to the San Lazaro-Hospital, and there detained until the vibrios disappeared from their stools. A house-to-house inspection was made of a large area, having the infected house for a center. This was done daily for five days.

The following tables show the number of apparently healthy persons examined for cholera bacilli, and how many were really carrying the bacilli:

Bilibid Prison.

Number of persons examined	264
Number found positive	17
Percentage found positive	6.44

City of Manila (exclusive of all hospitals and Bilibid Prison).

Number of persons examined	376
Number found positive	27
Number found negative but containing vibrios other than cholera	46
Percentage found positive	7.18
Percentage found negative but containing vibrios other than cholera	12.23

Even with perfect daily disinfection of closets and places soiled with fecal matter, all chance of infection from bacilli carries is not cut off, because a bacilli carrier with his soiled fingers may infect the food or drink of other persons.

The prohibition of certain native foods, fruits, and vegetables was necessary, not only because these substances were often infected or dangerous of themselves, but they were also the substances carelessly handled by dirty people of dirty habits, many of whom were undoubtedly bacilli carriers, and they were the substances which were eaten without sterilization by boiling or cooking after such handling.

It has been demonstrated this year that the perennial outbreaks of cholera in Bilibid Prison are probably due to bacilli carriers. Upon the appearance of cholera in Bilibid Prison this year, orders were issued that stools were to be examined for cholera of those who had anything to do with the preparation of handling of food and drink. Two hundred and sixty-four samples were taken and of this number of apparently healthy persons, 17 were carrying the cholera organisms in their intestines. To find out and isolate all other bacilli carriers, involved an

amount of work in stool examinations alone which would have been impossible for the already overtaxed bacteriologists.

Results were obtained by an order to compel washing of the hands in disinfecting solution after stool and before eating. This order was enforced and cases ceased to appear, although there were doubtless many bacilli carriers in the 3,000 prisoners whose stools had not been examined.

The practice of taking stools had to be discontinued when the cases increased to such an extent that it was no longer possible to do it. For the same reason, the house-to-house inspection of infected areas had to be supplanted by a general house-to-house inspection of the whole city when the number of infected houses—that is, houses in which cholera had appeared within five days—reached 200.

Failure to find cholera cases early makes the suppression of the disease difficult. Cases, even with the house-to-house inspection, are from two to twenty-four hours sick before discovery. Upon discovery a quarantine guard is placed upon the house and inmates, and from this point that particular focus is adequately cared for, but in the hours before discovery other individuals probably have been infected.

When a Filipino falls ill, all the neighbors will, either through interest or curiosity, crowd into the house. Upon discovery, or upon decision of the householder or doctor to report the case, these people promptly scatter, go to their meals without washing their infected hands, eat their rice with these same infected hands, and even carry with them from the infected houses, mats, articles of clothing, food and drink, to save them from the all-destroying disinfectors. Our disinfectors try to trace out these other houses where clothing, etc., has been carried, but it is very difficult and often impossible.

To illustrate the spread of the infection in this way, the course of the disease in Meisic district may be taken as an example. It will be observed that every four days there is a sudden increase in the number of cases. These are the persons infected from the cases of four days previous. It does not mean an incubation of four days, for these cases when found have always been sick for some time, but it would indicate an incubation of from two to three days.

Counting a house where cholera had been found within five days as a focus, on September 23 there were 241 infected foci in the city of Manila, well scattered, as is shown by the following table:

District.	Number of infected foci.
Meisic	66
Tondo	59
Sampaloc	41
Intramuros	54
Paco	21
Total	241

With the organization and the employment of the measures outlined above, the number of cases was reduced from 60, the maximum number of cases in one day, September 20, to an average of 8 cases per day for the first twelve days in October.

Cholera is the same disease, whether encountered in Germany, Russia, Italy, Egypt, India, or the Philippines, but the measures taken to prevent its spread and to suppress the infection depend upon the geographical location of the epidemic. To suppress a cholera epidemic in a country like Germany, for example, is a comparatively simple proposition, while in the Philippines its suppression is complicated by existing conditions peculiar to these Islands.

Four things are of prime importance for the suppression of cholera: (1) A good water supply for all the people; (2) safe disposal of the defecations of the entire population; (3) prompt discovery of cholera cases, suspects, or bacilli carriers, with immediate isolation and disinfection; and (4) habits of cleanliness.

If the water supply is free from cholera and can be kept so, then the spread of the epidemic depends upon the improperly cared for stools of the persons carrying the bacilli of cholera. Flies, cockroaches, and other insects or animals having access to such stools carry the infection to food and drink. There is infection from persons who do not wash their hands and whose soiled fingers carry the infection to food or drink. There is also direct infection from actual cases of cholera.

Water.—Manila city water has been examined daily by the Bureau of Science and the cholera bacilli have not been found therein. However, with the appearance of cholera in San Mateo and Mariquina, it was deemed prudent to place a military guard to prevent possible pollution of the river.

The new water supply, taken from higher up the gorge, will be practically safe from contamination by human excrement.

The great trouble with the Manila water supply is that it does not reach all the people. Some barrios are at a great distance from the nearest hydrants, and the people must carry, or pay for carrying, a long distance. As a result, they use water from shallow wells, ponds, esteros, or other questionable sources, for washing clothes, kitchen untensils, and also in many instances for drinking purposes.

It was deemed necessary to close all wells, except a few in the more distant barrios, which were treated with permanganate of potash. Besides closing wells, wherever possible, all stagnant places were drained by digging ditches and certain small, infected esteros were patrolled by the Constabulary to prevent the people using the water.

Disposal of the human excrement.—The new sewer system is another sanitary improvement anxiously awaited. The existence in Meisic district of thousands of tight vaults and filthy closets is responsible in a great measure for the spread of cholera in that district and the difficulty

experienced in eradicating the disease. These filthy closets and tight vaults can be replaced by modern flush closets connected with the new sewer system. In the newer residence districts, septic vaults and absorbing basins are used as receivers of sewage from modern flush closets. It will be an improvement when all vaults, however satisfactory in construction, are no longer necessary, because of the installation of the new sewer.

In the nipa districts, the people depend upon the sparsely scattered public closets or have no closet facilities whatever. In the latter instance, the fecal matter is deposited in the most convenient place; in the long grass, in the estero, in pools or gutters, or under the house. The family pig takes care of a considerable quantity of human excreta and garbage.

There are large barrios within the limits of the city of Manila where the only way of entrance is a path too narrow to permit a wagon to enter. These, of course, have no garbage collection or closet facilities.

Habits of cleanliness are best secured by a campaign of popular education. Excluding the water supply and the disposal of feces, the other factors in spreading infection can be nullified by the inculcation of cleanly habits. If the bacilli carrier washed his hands often enough and at the proper times he would not transfer infection from his dirty fingers to the food or drink of others. If the kindly native neighbors who assist those sick with cholera, and who disappear before the arrival of the health officers, can be taught the necessity of washing their hands before eating or handling food, many more cases will be prevented.

The Bureau of Health has printed cholera circulars in Spanish, English, and all the native dialects, telling how to protect one's self against the infection of cholera. This campaign is best conducted in the schoolroom and from the pulpit. The Bureau of Education and the church authorities have coöperated in an attempt to spread the knowledge and advice contained in the cholera circulars among the people. Efforts along this line have met with success but it requires a long time to completely change the habits of a people, and it will probably require another generation to complete the work.

In order to keep the city of Manila reasonably free from cholera, it will be necessary to carry out the following measures:

The Manila city water supply must be extended to every part of the city and placed within the reach of everyone.

Tanks and reservoirs must be so constructed as to preclude the possibility of contamination.

Esteros must be controlled and confined to definite beds either by adequate walls or by dredging so that any overflow land will be drained between tides.

The filling in of low places which can not be drained to the proper height above the curb is essential.

Public closets must be established in all barrios, so that every inhabitant of the city of Manila will have closet facilities at his disposal. It is advisable to have more closets even if of less seating capacity; six closets of six pails each will be of more value than three of twelve pails each, for the reason that the native has a shorter distance to travel. Also, the cutting of alleys through the back yards will facilitate his journey to the closet.

Before permitting land to be used for building purposes within the city limits, the land should be subdivided by streets and alleys upon a definite plan. The indiscriminate building of nipa shacks upon the interior of a block without order or regard for necessary intervening spaces should not be permitted. Streets and alleys should be cut through already existing collections of nipa shacks, and, when necessary, houses removed to permit proper spacing. Streets must be opened into barrios within the city limits which are now isolated and have no wagon road entering them to permit the collection of garbage and refuse.

A sufficient force of sanitary police to enforce the use and sanitary maintenance of closets.

All wells must be filled in.

More stringent measures to compel the prompt reporting of "suspicious" cases, with severe penalties for infractions of this ordinance.

Stricter enforcement of the building code in the erection of new buildings.

Nipa shacks in the strong-material districts must go, and repairs to old nipa shacks, which perpetuate this problem, must be prevented. These nipa districts exist by sufferance within the strong-material districts, dilapidated shacks crowded together in the most insanitary manner, where there are excellent public closets, patronized only by a select few. The majority still find it easier to deposit or throw their dejections upon the swampy ground. These districts are the natural homes of cholera and from there the people who are trying to live decently are infected by means of *muchachos,* cooks, or *cocheros,* who spend their spare time in these plague spots.

A proper system of surface drainage for every part of the city of Manila, where such drainage is lacking, but especially for (1) the San Lazaro Estate and that portion of the city from the San Lazaro Estate to the railroad crossing on both sides of Calle Cervantes, (2) Santa Monica, (3) Antonio Rivera, (4) Magdalena, interior, (5) that portion of Tondo north of Moriones and west of Estero de la Reina, and (6) that portion of Malate bounded by Calle Herran, Wright, San Andres, and Nueva.

In view of the foregoing, the city authorities, under the direction of this office, have installed á chain of forty-five additional public midden sheds throughout the poorer sections of the city.

In the same manner, seven additional public water hydrants have been installed, and five more will be placed as soon as the necessary pipe can be laid.

Upon request of this Bureau, on October 24 the Municipal Board of the city of Manila made provisions for the expenditure of ₱5,000 for drainage purposes; the work to be carried on under the general supervision of the Director of Health. The larger portion of this sum was expended for the drainage of the San Lazaro Estate.

On November 13 the Bureau of Lands added to this amount the sum of ₱5,000, and on December 10 the Municipal Board added a further sum of ₱1,500, making a total sum of ₱11,500 available for emergency drainage work.

Of this amount, ₱1,221.42 was expended on the drainage of certain branches of the estero de Quiapo in the vicinity of Calle San Sebastian and Mendoza, 1,000 meters of estero were cleaned, and 19.5 meters of retaining wall constructed. The remainder is being expended entirely on the San Lazaro Estate, ₱7,806.20 having been used up to January 1, 1909, with the following results:

Number of meters of street drains constructed	11,317
Number of meters of alleys drains constructed	5,811
Number of meters of cement gutters constructed	134
Number of culverts placed at street crossings	212
Number of meters 20-inch sewer constructed	70

The San Lazaro Estate has a population of several thousand inhabitants, which, together with the low ground on which it is situated, make conditions extremely insanitary. This fact was particularly emphasized during the outbreak of cholera. It was insisted by many that the estate could not be drained without extensive preliminary filling which would involve an expense of fully ₱100,000. The present drainage system, however, as carried into effect by this Bureau, is a complete success, and clearly shows the practicability of draining at a comparatively small expense by proper street drains many of the insanitary districts of Manila.

The efforts of the Bureau to solve the problem of the nipa shacks in the strong-material districts have met with strenuous opposition. It is most difficult to make the denizens of these filthy collections of shacks conform to the sanitary regulations, and their habitations and mode of life make this problem a serious one, as their presence is a distinct menace to the health of their more fortunate neighbors. When orders were issued for the removal of these shacks, all sorts of expedients were tried to delay the work. However, the securing and preparation of sanitary building sites removed the last valid objection, and the shacks are now disappearing from the better residence districts. During the past year nearly 700 insanitary nipa houses have been vacated and

removed from the congested hard-material districts of Manila, Government land (San Lazaro Estate) being provided for such as desired the same, free of rental for six months, after which period a nominal ground rent will be charged.

The nipa-shack problem is perpetuated by allowing illegal repairs and by legalizing repairs in sections where such should not be permitted. If the building ordinances of the city were carried out strictly and all repairs prevented, the problem would solve itself. In response to the protest of this Bureau, the Municipal Board amended that part of its ordinances which permitted residents of certain nipa sections in the heart of Malate to repair their shacks until 1914. Therefore, repairs in this district to light material houses are now illegal.

SUMMARY OF THE CHOLERA SITUATION IN THE PHILIPPINES.

A careful review of the cholera conditions in the Philippines during the past few years, coupled with a study of the cholera reports from different parts of the world in which the disease exists, leads more and more to the conclusion that the cholera question in the Philippine Islands presents much the same problem as typhoid fever in Europe and America. The experience of the Bureau has demonstrated again and again that the disease can be controlled and that those persons who desire to take the few simple precautions which all residents of the tropics should take in order to protect themselves against intestinal diseases, can rest assured that they will not contract the disease.

The prospects of lessening the number of cases each year are excellent, and its complete eradication is not too much to hope for because many brilliant scientific men with liberal endowments to aid them are at present at work in all civilized countries seeking to perfect measures for eradicating typhoid; and when these are found, they can likewise be applied to cholera, and this scourge removed from our midst.

GANGOSA.

The experience of the past year has been similar to that of the previous years, and the opinion that this disease does not exist in the Philippine Islands is becoming very firmly fixed. During the past year there were 1,300 lepers collected, and the officials in charge of these collections were specially instructed to bring to the ports not only those persons who were undoubted lepers, but also those who were suspects, in order that a definite diagnosis might be made. They were specially instructed also to bring in all persons with symptons of gangosa. In view of the fact that not one case came under observation during the past year, it is believed that it does not exist to any great extent, at least, in the Philippine Islands.

INSANITY.

The Government at the close of the year was maintaining 136 insane persons at San Lazaro, and 112 at the Hospicio de San Jose; the city had at its own expense at the same institution 119, so that relief was afforded to a total of 367 cases, exclusive of those maintained at private hospitals. Of those at San Lazaro, 18 were discharged as having regained their normal mental condition, which is a percentage that will compare favorably with institutions in other countries.

Considerable difficulty has been encountered in committing cases because there are no adequate laws in the Philippines governing this subject. A review was made of the legislation on insanity in many of the States in the United States, but there also it was evident that the legislation was, in many instances, unsatisfactory. The legislature of Massachusetts has appointed a special committee to draft a model modern law upon this subject, and it is hoped that the result of that study will be available soon so that its good features may be incorporated in the draft of an insanity act which it is proposed to submit to the next Legislature.

HOOKWORM DISEASE.

During the past year it was not possible on account of the prevalence of cholera which required all the available force of the Bureau, to commence the hookworm campaign as outlined in the last annual report: but after numerous efforts, a commission for the study of the hookworm and other tropical diseases was finally put into the field under the joint auspices of the Bureau of Health, the Bureau of Science, and the Philippine Medical School. In addition to making hookworm examinations, it was deemed advisable to make a complete sanitary survey and study of a provincial town, with the object of ascertaining just what the incidence of disease was among Filipinos who lived amidst typical local conditions. For this purpose the town of Taytay in the Province of Rizal was chosen, which has a population of about 6,000 persons, and is a community which in the past has suffered severely from outbreaks of dangerous communicable diseases. Even in Spanish times it was supposed to be one of the endemic centers from which cholera spread.

On account of the fact that men were available from so many different sources, it was possible to have one expert report upon the contour and formation of the country, a chemist for the analysis of water, a biologist for the study of its animal and vegetable forms, clinical microscopists for making blood examinations, a zoölogist for making the intestinal parasite examination, an entomologist for studying the mosquitoes and other insects, a number of competent clinical men to make the physical examinations, and a number of other experts who could be consulted from time to time.

Unfortunately, this commission was discontinued early in the month of June because many of its members had to return to their positions as instructors in the Philippine Medical School, or sever their connection with the work for other reasons.

Of the first 1,000 inhabitants examined it was found that about 10 per cent were suffering from uncinariasis and 95 per cent harbored one or more kinds of intestinal parasites.

In order, however, that this work might be continued another commission was immediately put into the field directly under the auspices of the Bureau of Health, and Medical Inspector Rissler was placed in charge thereof. This commission will confine itself entirely to intestinal parasites, and will operate in the vicinity of Las Piñas, in Cavite Province, which has a sandy soil, and in this respect differs from Taytay which has a clay soil.

Up to the close of the fiscal year, 623 cases had been examined, and it was found that 14 per cent of the males and 10.6 of the females, or an average of 12.3 per cent, had hookworms. In the town of Parañaque, which also has a sandy soil, a total of 159 persons were examined, of whom 76 males showed a percentage of infection of 18.4 per cent, and 83 females a percentage of 12 per cent with an average of 15 per cent.

In carrying out this hookworm work, a feature has crept in for which no provision was originally made, viz, people apply for all sorts of medical and surgical relief; and in order to encourage them to come in for examination for hookworms, it has been the policy of the Bureau to take care of this work; but the number of persons so attending has reached such proportions that the hookworm work is seriously interfered with.

LEPROSY.

A review of the work of the year with this disease shows that most satisfactory progress has been made, and all expectations more than realized. A total of 1,318 lepers were transferred to Culion, and every province in the Philippines except Nueva Ecija and Moro have had at least one collection of lepers made. The incidence of the disease has been apparently decreased from one leper among every 2,000 inhabitants to one leper among every 2,800 inhabitants. At the close of the last fiscal year the estimated total number of lepers in the Islands was 2,708; this year it is 2,273. The hardest task of the health officer in order to bring this work to a successful issue, however, yet remains, and that is patiently, but nevertheless firmly and continually to seek the incipient cases and transfer them to Culion. With our present knowledge, the carrying out of this policy offers the only hope of ultimately eradicating this most loathesome disease from the Philippines.

Since the work of isolating the lepers of the Islands began in a systematic manner in 1906, there have been 3,990 collected up to the

close of the fiscal year 1908–9. The work has been carried on with scarcely any friction or disturbance, nor has anyone felt that it was necessary to seek legal means of avoiding segregation. The cheerful manner in which the great majority of the lepers and their friends have acquiesced when their turn came to be taken to Culion has been most satisfactory evidence of the forbearance of the people of the Philippines, and an example of how well a large public health measure can be carried out when it is supported by public opinion and done in a manner which shows due regard for the rights of the individual.

At Culion there were at the close of the year 1,741 lepers and 185 were en route, making a total of 1,926. A much better feeling appears to prevail among the colonists than has heretofore been the case. An interested and cheerful activity is shown in the cultivation of gardens, the establishment of barrios or small groups of houses built some distance from the colony by the lepers themselves.

A number of causes are no doubt responsible for this. The great majority of the advanced cases that reached the colony in a hopeless condition have now passed away, and in consequence, the death rate has since become materially lower. The great improvement which has taken place in many cases from the use of the X-ray and more especially the use of crude chaulmoogra oil as recommended by Professor Dyer of New Orleans, has renewed hope to a marked extent. The offers of the Government to furnish work animals and farm implements are now eagerly accepted in many cases.

Our knowledge of leprosy has been considerably enhanced during the year by the discovery of Mr. Moses T. Clegg of the Bureau of Science of a method of cultivating the leper bacillus in artificial media. This is believed to be the first time that there has been an opportunity to study this organism satisfactorily, and there is now at least some hope that a serum or vaccine will be made which can be successfully used in combating this loathsome disease which has been shunned from Biblical time.

CHAULMOOGRA OIL TREATMENT.

In view of the many requests which are being received for the details of the treatment of leprosy with crude chaulmoogra oil as used by Professor Dyer of New Orleans, the following extract of his method is given:

1. Full diet, restricting only indigestible foods, is indicated. The disease seems in nowise to be affected by fish or any other particular article of diet.

2. Baths are essential in the treatment; hot baths twice a day, with or without soda, are effective.

3. The patient needs tonics, febrifuges, and should be watched for intercurrent or complicating diseases, such as malarial infection, pleurisy, pneumonia, grippe, and the like.

4. Strychnine is a *sine qua non* in the treatment of leprosy. My assistants

and I lay down the rule that a leper should always take strychnine—the sort and size of dose to be regulated by the patient himself.

5. When chaulmoogra oil is given it is better endured before meals than after. It is best taken in capsules, in hot milk, or in milk of magnesia. The dosage should be begun small, say 3 drops, and increased every second or third day until as much as 120 to 150 drops of the oil are taken at the dose.

At times it is advisable to give the oil in pill form. This can be done either combining it with extract of nux vomica and ordinary excipients or a very effective way is with tragacanth and common soap.

6. Above all things individualize the patient. Watch for improvement and if it does not show in three months wait six months—if it does not show in six months, wait a year, or longer. But keep on driving at the treatment until the patient dies or gets well. I have on record one patient who did not show any signs of improvement for two years, but who is now well.

7. When all evidences of the disease are gone, insist on a continuance of treatment. It may not be necessary, but it makes sure.

X-RAY TREATMENT.

The X-ray treatment of leprosy was continued during the year, but the results have not been so encouraging as heretofore. At the beginning of the fiscal year there were 27 cases under treatment; of these 2 died, one of organic heart disease, and the other of tuberculosis of the lungs, both of which diseases can in no way be connected with the use of the X-ray. In eight cases the treatment was discontinued because, after months of application, no further improvement could be noted. Five new cases were placed under treatment on the following dates: one on September 24, 1908, and one on the 26th; one on October 3, 1908; one on January 1, 1909, and one on the 22d. (At the close of the year 22 cases were under treatment. Of these 2 were somewhat improved, 7 improved, and the disease arrested in 13.

Of the new cases the one placed under treatment on October 3, 1908, A. B., is slightly improved. A. de la C. placed under treatment on November, 1906, shows the most improvement, the case being clinically cured, but upon microscopical examinations made of scrapings taken from the nasal septum the leper bacillus can be demonstrated.

The case of Leon Liuanag wich was reported apparently cured in last year's annual report, shows some evidence of the return of the disease in the face, and in August, 1908, leper bacilli were found in blood specimens taken from the lesions.

The experience of the year again shows that in practically every case treated with the X-ray the disease is arrested.

MALARIA.

The number of deaths from malaria reported in Manila was 111, which is a reduction of 53 cases as against the preceding year.

The reduction may be accounted for in part by the increased medical service which is now available, and the greater distribution of quinine in consequence. It is thought that the majority of the cases were

contracted outside of Manila, because malaria carrying mosquitoes are not frequently encountered in the city.

In those districts in which the disease has prevailed extensively in the past, provinces like Ambos Camarines, Albay, Bulacan, etc., in which large quantities of quinine have been distributed gratuitously, the reports indicate that there has also been a reduction in the number of cases. Throughout the Islands, around many Government institutions there has been considerable filling and draining done, and mosquitoes eliminated; but this work is not sufficiently extensive to make much impression on the problem in the Philippines as a whole. Before more can be done in this direction additional funds will be needed.

MEASLES.

In last year's report attention was called to the fact that measles was a common disease in the Philippine Islands, but on account of the fact that it was so much more mild than the measles encountered in the United States and Europe, it almost escaped notice; but that during the year the disease had been imported from the United States and had caused a number of severe outbreaks in Manila and the vicinity.

This year such cases as were imported were more promptly isolated and it is satisfactory to report that no severe outbreaks occurred.

OPIUM HABIT.

In the drug habit department of San Lazaro Hospital there were treated 106 cases of opium habit as against 400 for the preceding fiscal year. The admissions for the fourth quarter were only 3. This reduction in the number of cases may be explained by the fact that the majority of offenders against the Opium Law are now committed directly to Bilibid. Of the 106 cases admited to San Lazaro 100 per cent were discharged as cured. It is impossible to estimate with any degree of accuracy the percentage of permanent cures, but it is exceedingly rare that the same patient is admitted the second time.

In Bilibid Prison there were admitted during the year 256 morphine patients and 26 opium patients, making a total of 282 cases of which all but two were Chinamen; the two exceptions being Filipinos. On July 1, 1909, there were 17 cases on hand, making a total of 299 cases that were treated during the fiscal year. All of these cases have been discharged as cured except two which remained in the hospital at the close of the year and two which died from tuberculosis during the treatment. These two patients are the only ones that did not improve under treatment.

In Bilibid there is a better opportunity to observe the permanency of opium cures, and it has been noted that patients who have been properly treated very soon learn to get along without the use of the drug and rapidly improve under mild tonic treatment.

The experience had at San Lazaro in the treatment of opium patients shows that persons who smoke opium can give up the habit with little inconvenience, that those who use it by mouth have more difficulty, and that those who use it hypodermically require prolonged treatment and undergo considerable inconvenience. This experience is in accord with that reported by the Straits Settlement Opium Commission.

PLAGUE.

Another year has gone by without a case of plague in the Philippine Islands, although it has been prevalent in Japanese, Indian and Straits Settlements ports, all of which are in frequent communication with the Philippines, some being only two days distant.

Vessels from plague infected countries are thoroughly fumigated for the destruction of rats and other vermin. A detailed description of the new rat-proof wharves recently constructed in Manila will be found in this year's annual report of the chief quarantine officer for the Philippine Islands.

The campaign against the disease is conducted on the theory of the Indian Plague Commission, that bubonic plague in man comes from the plague-infected rat by means of the rat flea.

So far as the records show, there has never been a case of bubonic plague imported into the Philippine Islands, so the measures of protection are directed chiefly against the rat; though the possibility of the disease being spread through infected persons by means of the rat flea is not overlooked. Twenty cases of bubonic plague in San Lazaro Hospital would not be as dangerous to the community as a few plague infected rats at large.

The success which has attended the measures instituted by the United States Public Health and Marine-Hospital Service in the Philippine Islands and by the Bureau of Health has been sufficiently great to justify their continuance without change.

In reply to the numerous inquiries which have been received with regard to the methods which were employed finally to eradicate the disease from the Philippines in 1905 and 1906, the following outline is respectfully submitted:

The health officials of the city of Manila, Philippine Islands, for the five-year period from 1900 to 1905 made most valiant efforts to destroy the rats of the city; approximately $15,000 were paid in rat bounties and $325,000 in salaries and wages, and other expenses of rat catching; but at the end of that time the rats were apparently as plentiful as before and the plague was still present. The experience in Tokyo and Osaka had been practically the same. Professor Kitasato expressed the opinion that a given city could only have up to a certain number anyhow, because further increase was limited by the amount of available food and when the limit had been reached the rats commenced to eat

one another, which prevented more than a certain number ever being present, and that the increase by breeding was about as rapid as any method of destruction which had yet been tried.

The following plan was then tried and the plague among human beings soon disappeared, there having been no cases since April, 1906; and it has been eradicated among rats each time it has made its appearance.

A list of the places at which plague-infected rats were found was made. Each was regarded as a center of infection. Radiating lines, usually five in number, were prolonged from this center, evenly spaced like the spokes of a wheel. Rats were caught along these lines and examined. Plague rats were seldom found more than a few blocks away. The furthermost points at which infected rats were found were then connected with a line as is roughly shown in the following diagram.

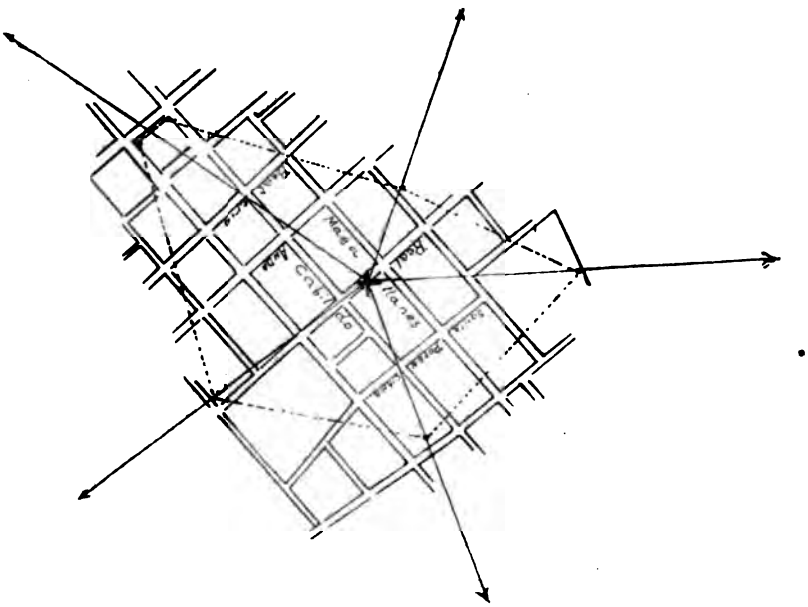


FIG. 1.—ISOLATED PLAGUE-INFECTED CENTER, CITY OF MANILA.

The space inclosed by the dotted line was regarded as a center of infection. The entire rat-catching force which had heretofore been employed throughout the city was then concentrated along the border of the infected section, that is, along the dotted line. It then commenced to move toward the center marked "X," catching the rats as it closed in. Behind them thorough rat proofing was carried out. One section after another was treated in this way until they had all been wiped out. Once weekly thereafter rats were caught in the previously infected sections and at other places which were insanitary and which had been infected in years gone by. This continued for one year.

The city was then divided as is shown in the following diagram, and rats are caught once weekly at each point at which the lines intersect, and sent to the laboratory for examination.

In addition, sanitary inspectors are instructed to bring in dead rats which have evidently died of disease, and more detailed rat catchings are made along the water front.

It is understood, of course, that rat proofing of the entire city should be thoroughly carried out and constantly maintained.

Conclusions.—Since the above system was adopted plague has disappeared in the city of Manila; among human beings in 1906, among rats in 1907, and it has not since reappeared.

That the cost is only a small fraction of that of general rat examination.

That the plan is thoroughly practical for any kind of a city."

SCARLET FEVER.

During the month of April there occurred the first case of scarlet fever that has been recorded in the Philippines during American occupation. The victim was a young physician attached to one of the local hospitals.

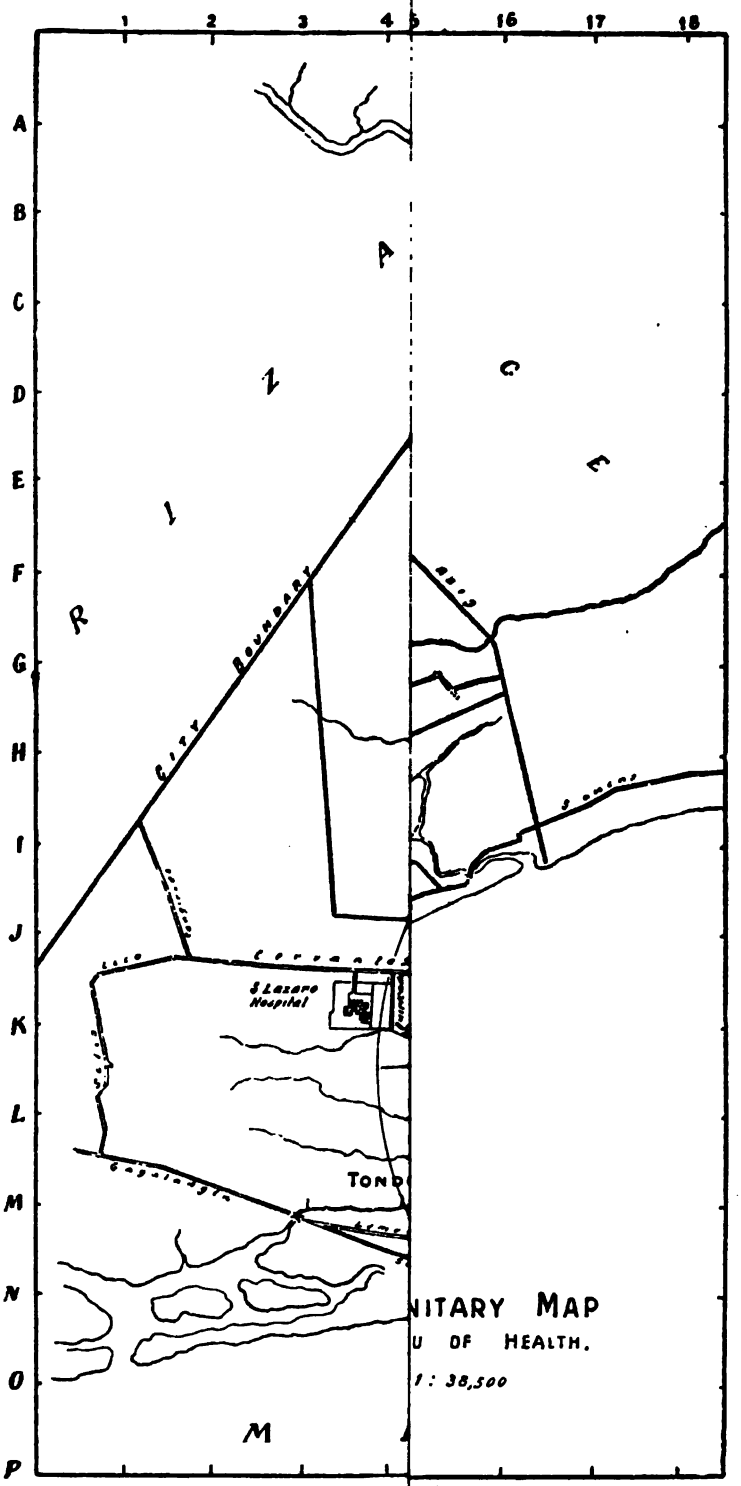
The case was immediately put into an isolation ward at San Lazaro Hospital and no spread of the disease took place.

If scarlet fever has ever prevailed in the Philippines its presence has previously been overlooked, as there is no record of it at any of the hospitals.

SMALLPOX.

This year the disease was again encountered in sections which had heretofore been thoroughly vaccinated, but upon investigation it was invariably found that the cases occurred either in children who had been born since the systematic vaccination had taken place and had not been vaccinated, or in persons who had come to such communities subsequent to the general vaccination. This experience makes further concrete proof that the infective principal of smallpox is widely distributed in the Philippines, and unless persons are protected by a previous attack or by vaccination, they are practically sure to contract the disease. Anti-vaccinationists are apparently especially prone to contract smallpox. During the year no less than two came to the notice of this office in the city of Manila alone, and both of them uselessly sacrificed their lives to this easily preventable disease.

A number of cases of varioloid occurred in persons who had been previously vaccinated, but not one single death from smallpox was reported to the Bureau of a person who had been successfully vaccinated within a few years of the time he had contracted the disease.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The following figures from Oriental Negros, with regard to smallpox, have just come to hand:

	Number of deaths.
1905	118
1906	127
1907	54
1908	23
1909	2

In this connection, it is pertinent to remark that the general vaccination was commenced in that province in 1907, and was completed in 1909. The foregoing experience has practically been duplicated in every portion of the Islands in which vaccination has been practiced. Reference to the statistical tables published by the Bureau of Health furnish ample confirmation of this statement.

SPRUE.

The hospital reports of the Bureau of Health show that 5 cases of sprue came under observation as compared with 2 cases for the preceding year.

The general impression seems to prevail among private practitioners that the disease is increasing. In the absence of statistics it is difficult to judge whether there is an actual increase or whether this fact is due to better diagnoses. At all events, the disease occurs only to a limited extent and can not be regarded as being serious from a public health standpoint.

No new treatment or special laboratory studies have come to the notice of the Bureau.

SUICIDE.

There has always been a general impression that there were fewer suicides in the Philippines than in Western countries, and this is well borne out by the following table which covers a period of five years. In the United States, for instance, the average number of suicides per year is 14 per 100,000, while in the Philippines according to this table there are only 4 to every 100,000 of the population. This is a most striking difference and offers considerable opportunity for speculation upon the cause for so great a difference between the Occident and the Orient.

Registered number of suicide cases during the last five years in the various provinces of the islands according to Form 46 B. of H.

Provinces.	1904.	1905.	1906.	1907.	1908.	Total.
Abra	0	0	0	0	4	4
Albay	3	1	0	3	3	10
Ambos Camarines	8	1	4	7	6	26
Antique	4	1	0	1	0	6
Bataan	1	1	0	0	3	5
Batangas	12	5	19	8	6	50
Bohol	4	3	10	16	16	49
Bulacan	9	12	5	6	6	45
Cagayan	9	10	8	0	16	43
Capiz	15	18	7	16	69	125
Cavite	13	6	4	6	9	38
Cebu	48	81	70	68	0	272
Ilocos Norte	0	5	0	7	30	42
Ilocos Sur	6	7	4	10	7	34
Iloilo	0	9	5	17	16	47
Isabela	18	4	1	2	10	35
Laguna	11	5	8	7	16	47
Leyte	0	27	0	0	0	27
Masbate	0	0	0	0	0	0
Misamis	17	10	6	4	0	37
Negros Occidental	7	10	29	24	7	77
Negros Oriental	0	4	5	14	19	42
Nueva Ecija	9	7	2	0	0	18
Pampanga	4	2	2	0	5	13
Pangasinan	25	18	12	40	28	123
Rizal	0	0	1	3	7	11
Romblon	0	0	2	2	2	6
Samar	2	0	0	1	0	3
Sorsogon	6	9	2	4	2	23
Tarlac	4	2	1	7	1	15
Tayabas	0	18	9	19	9	55
Union	8	0	0	8	10	26
Zambales	6	0	0	0	9	15
Lepanto-Bontoc	0	0	0	5	0	5
Total	249	283	226	300	307	1,365
Manila	6	4	1	7	3	21
Total	255	287	227	307	310	1,386

HUMAN TRYPANOSOMIASIS.

In last year's annual report the fact was mentioned that after the return from a leper trip a reëxamination of the slides was made which resulted in one being found which had excellent specimens of the *Trypanosomiasis gambiensi*. Most diligent effort was made to locate the person from whom the specimen was supposed to have been taken. By a process of exclusion the conclusion was finally reached that the person had died in the meantime. A number of indefinite reports were received that individuals existed in the same community who presented clinical symptons of sleeping sickness, but they could never be located accurately, so that in spite of the fact that a constant watch was kept for further cases during the year, not one came under observation.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The International Congress on Tuberculosis composed of delegates from every part of the world, convened in Washington, September 21, last, and continued in session until October 12. The congress was divided into three periods of one week each. The first week was set apart to lectures in the cities of Washington, Baltimore, Philadelphia and New York, by men of prominence in the United States and from

abroad, and to the placing of exhibits in the great new National Museum building. During the second week, that is, from September 28 to October 3, occurred the important work of the congress—the work done in sections, seven in number—sessions of which, in two or more proceedings, were going on all the time. In these section meetings were read all the important papers, and in these the discussions following them took place. The third and last week was mainly given over to the public to view the exhibits for educational purposes.

The exhibits in all departments were extensive and excellent, and they conveyed much important information. They were arranged with the special object of being easily understood by even the laity. The best showing in these was made by New York, Pennsylvania, Massachusetts, Colorado, the Department of Animal Industry, Washington, D. C., the marine and naval exhibits, the Government Printing Office, etc., New York leading in all practical work done, with the largest percentage of cases and of improved sanitary measures established and enforced.

The United States and New York especially now easily lead the world in improved methods for the care of comsumptives and in the sanitary laws governing them.

The benefits that will result to this country from our having been hosts to the International Congress on Tuberculosis will be more general organization, general publicity, improved enforceable sanitary regulations, the separation of the sick from the well, and the treatment of advanced and incipient cases in hospitals, sanitariums and day and night camps.

His Excellency the Governor-General appointed Dr. Fernando Calderon, professor of obstetrics in the Philippine Medical School, and the Director of Health to represent the Philippine Islands in the International Congress on Tuberculosis. The following report was submitted by them upon their return:

To His Excellency the GOVERNOR-GENERAL,
(Through the Honorable, the Secretary of the Interior)
Manila, P. I.

SIR: In conformity with the letters of appointment to attend the Third International Congress on Tuberculosis to be held at Washington, D. C., from September 21 to October 12, 1908, as delegates from the Philippine Government, your representatives have the honor to submit the following report:

One of your delegates (Dr. Heiser) in order to comply with his instructions to report upon the Molokai leper settlement, left Manila August 5, and the other upon August 10; they traveled together from Honolulu and reached Washington, D. C., on the afternoon of September 21. The first session of the Congress was held on the evening of this date.

Your delegates were most hospitably received and were accorded the special privileges which were extended to delegates from foreign governments.

Recognized experts on tuberculosis were present from practically every civilized country in the world, more than 27 foreign countries being represented, and the governors of many States were present in person. The daily attendance upon the

scientific sessions was about 2,000, and upon popular sessions probably 5,000. A total of over 4,000 physicians registered. Some States had 200 physicians present. The foregoing figures demonstrate that this was the largest congress which has yet been held and that active interest in combating tuberculosis is rapidly increasing. The first session was opened by the honorable the Secretary of the Treasury of the United States, and the closing session was presided over by His Excellency the President of the United States, at which the following resolutions were passed:

"*Resolved*, That the attention of State and central governments be called to the importance of proper laws for the obligatory notification by medical attendants, to the proper health authorities, of all cases of tuberculosis coming to their notice, and for the registration of such cases in order to enable the health authorities to put in operation adequate necessaries for the prevention of the disease.

"*Resolved*, That the utmost efforts should be continued in the struggle against tuberculosis to prevent the conveyance from man to man of tuberculosis infection as the most important source of the disease.

"That preventive measures be continued against bovine tuberculosis, and that the possibility of the propagation of this to man be recognized.

"*Resolved*, That we urge upon the public and upon all governments the establishment of hospitals for the treatment of advanced cases of tuberculosis.

"The establishment of sanatoria for curable cases of tuberculosis.

"The establishment of dispensaries and day and night camps for ambulant cases of tuberculosis which can not enter hospitals and sanatoria.

"*Resolved*, That this congress indorse such well-considered legislation for the regulation of factories and workshops, the abolition of premature and injurious labor of women and children, and the obtaining of sanitary dwellings as will increase the resisting power of the community to tuberculosis and other diseases.

"That instruction in personal and school hygiene should be given in all schools for the professional training of teachers.

"That, whenever possible, such instruction in elementary hygiene should be intrusted to properly qualified medical instructors.

"That colleges and universities should be urged to establish courses in hygiene and sanitation, and also to include these subjects among their entrance requirements, in order to stimulate useful elementary instruction in the lower schools.

"That this congress indorses and recommends the establishment of playgrounds as an important means of preventing tuberculosis through their influence upon health and resistance to disease."

The interest exhibited by those who attended the Congress and that of the press of the United States was characterized by its earnestness and enthusiasm.

FIRST WEEK.

The work of the first week of the congress was devoted to a study of the tuberculosis exhibit which was pronounced by those who are in a position to judge to be the most complete of its kind that has yet been assembled anywhere. Since the closing of the congress the exhibit has been transferred to New York City and later will be sent to Boston and other places. An idea of its size may be obtained when it is stated that it occupied a floor and wall space over forty times greater than that of the Marble Hall at the Ayuntamiento, Manila. It consisted mainly of models of the proper way in which dwelling houses should be constructed, actual size and models of small and individual shacks or tents for the treatment of tuberculosis in different climates. These varied in style and

equipment from those that cost thousands of dollars down to some which could be constructed for $25. Statistics were presented in every conceivable form. One chart showed that there had been more deaths from tuberculosis in the past year than the total number of deaths in all the battles of the Civil War. Cuspidors, sputum cups, pocket flasks and methods for disinfecting their contents by burning, hot water or disinfecting fluids were shown in endless varieties. One exhibit that attracted much favorable comment was that of the Government Printing Office in Washington by which cuspidors are carried to a special room, cleansed and disinfected without being touched by the hands. The good that may be done by nurses appointed to visit the poor in their homes was well shown by the improved appearance of the houses and the disposal of the sputum of the afflicted ones in such manner as to avoid its being a source of danger to others. Windows were arranged so that they would ventilate, painted floors substituted for carpets, iron beds for wooden ones, light washable curtains for the heavy variety. In brief, every effort was made to show that the house should be light, well ventilated and contain few things in the way of furniture and other furnishings, instead of being dark and filled up with many furnishings.

The evil effects of sweeping with an ordinary broom, without first wetting the surfaces or using a special form of brush, was demonstrated by charts showing that tubercle germs have frequently been found in clouds of dust raised by the ordinary method. Many hundreds of other things too numerous to mention were shown. A catalogue of the exhibited is forwarded herewith marked "A."

SECOND WEEK.

The work of the second week of the congress was divided into seven sections, with a chairman at the head of each who had an international reputation in the special field over which he presided, viz:

Section 1.—Pathology and bacteriology, Dr. William Welch.

Section 2.—Clinical study and thereapy of tuberculosis, Dr. Vicent Y. Bowdich.

Section 3.—Surgery and orthopedics, Dr. Charles H. Mayo.

Section 4.—Tuberculosis in children, Dr. Abraham Jacobi.

Section 5.—Hygiene, social, industrial, and economic aspects of tuberculosis, Edward T. Devine.

Section 6.—State and municipal control, Dr. Walter Wyman.

Section 7.—Tuberculosis in animals and its relation to man, Dr. Leonard Pearson.

Under the section entitled "The States and municipal control of tuberculosis," the papers were read which were deemed by your delegates to be of the most practical interest to the Philippine Islands, and consequently, the greater portion of their time was devoted to this section.

All sections met daily from 9 to 12 and from 2 to 5, and at times two sections held combined meetings to discuss questions of common interest; a general meeting of all sections was also held every night beginning at 8 p. m.

On September 29, Doctor Heiser read a paper entitled "The Tuberculosis Problem in the Philippines and the Elimination of Intestinal Parasites as a Step in its Solution."

On October 1, Doctor Calderon read a paper entitled "Notes on Tuberculosis in the Philippines."

The scientific work of the congress was closely followed and your delegates were struck with the remarkable unanimity which prevailed among the delegates upon the following points:

1. That tuberculosis in its early stages is a curable disease.

2. That it is a house disease; that is to say, that people who live an outdoor life are not afflicted with tuberculosis, and the more confined the living quarters are, the more prevalent is the disease.

3. That it is a simple and practical matter to avoid contracting tuberculosis by introducing large volumes of air into the house, night and day, winter or summer, or better, by sleeping out of doors altogether.

4. That among the best ways to cure it is to live an outdoor life, regardless of what the climate may be, with only such exercise as a physician prescribes and a good simple diet which should consist mainly of eggs and milk.

5. That the successful treatment of the disease is not necessarily confined to specially favored localities but that many cures may be effected in almost any climate or locality.

THIRD WEEK.

The third week of the congress was devoted to a continuation of the exhibition, lantern demonstrations, lectures, and visits to Baltimore and the near-by places at which tubercular sanatoriums are located.

OFFICIAL VISITS.

At the close of the congress, October 12, your delegates proceeded to Philadelphia, Whitehaven, Saranac, Boston, New York and a number of other places for the purpose of witnessing the dispensary and hospital work in large cities and the manner in which the different kind of sanatoriums are conducted. After carefully inquiring into and seeing the foregoing it is again plainly evident that the authorities are practically unanimous in their methods of combating tuberculosis, the principal difference being to suit them to the financial abilities of the different communities in which they were in force.

The measures readily divide themselves into the following divisions:

1. Registration and classification of cases.
2. Popular lectures on tuberculosis and popular articles in the press.
3. Treatment of tuberculosis by the dispensary system.
4. Confining the hopeless cases in separate hospitals located in the city.
5. Sending early cases to a sanatorium in the country.

TUBERCULOSIS WORK IN PENNSYLVANIA.

As practically all the States are endeavoring to adopt the systems in use in Pennsylvania, Maryland, New York, and Massachusetts, that now used in Pennsylvania is hereby briefly outlined:

1. The collection and tabulation of statistics relating to tuberculosis, through official morbidity and mortality reports of each individual case.

2. The establishment of one or more sanatoria for the treatment of incipient cases, including infirmaries for advanced and hopeless cases.

3. The establishment of dispensaries in each county of the State for the care of cases which can not avail themselves of sanatorium treatment, including home visitations and the study of occupational conditions.

4. The maintenance of pathological laboratories for the free examination of sputum and tuberculous lesions, and biological laboratories for the possible development of immunitive and curative products.

5. The restriction of tuberculosis by the disinfection of rooms, buildings (private and public), conveyances and carriers, and by supervision and regulation over the general avenues of infection.

6. The dissemination of knowledge relative to the communicability, care and prevention of tuberculosis.

The last session of the Pennsylvania legislature appropriated $1,000,000, United States currency, for the continuation of the fight against tuberculosis in that State. The sums raised from private effort probably amounted to as much again. Dr. Lawrence Flick, the eminent authority on tuberculosis, estimates that as a result, at least 5,000 lives are already being saved annually in Pennsylvania alone.

WHITE HAVEN.

This institution differs from all of the others visited in that a systematic trial is being made on a large scale to make the sanatorium largely self-supporting by the labor of the patients. So par as our observations went it can not be said that this plan has proven successful up to this time.

After carefully reviewing the literature and evidence we have collected, we respectfully submit the following recommendations, with the earnest request that some action may be taken so that the Philippines may be able to show that as much is being done for the people of the Islands as in similar countries in other parts of the world.

Every effort has been made to make the recommendations practical, rather than theoretical, and capable of being put into effect with the resources at hand.

RECOMMENDATIONS.

1. That the compulsory registration of cases of pulmonary tuberculosis be put into effect immediately, at least in the city of Manila.

2. That one or more dispensaries solely for the out-patient treatment of tuberculosis be opened in Manila, to which one or more nurses be attached for the purpose of visiting patients in their homes. Also that provision be made for microscopical examination of sputa.

3. That the necessary funds be provided for a trial by the "open-air method," in Benguet or some other place where an equally low temperature may be had, for the treatment of not to exceed twelve tubercular patients.

4. That provision be made on an elevated site near Manila for treating a limited number of incipient cases of tuberculosis, for a period of not to exceed three months each, by requiring their presence only during the night in order that the advantages of the open-air method the disposal of sputa, and the precautions to be taken to avoid transmitting the infection to others may be demonstrated.

5. That in order to furnish a practical object lesson, sanitary cuspidors be provided and used in all public buildings, including public schools, and that the sweeping or cleansing of such buildings be done in such manner as to prevent the formation of clouds of dust.

6. That the public streets be swept only when in a wet condition, so as to avoid dust being blown about unnecessarily. In this connection it is suggested that the cleansing of streets by flushing, as is now done in Cincinnati and other cities of the United States, be thoroughly investigated with the view of discontinuing street sprinkling and sweeping in Manila.

7. That arrangements be made for supplying the public press with information with regard to tuberculosis.

8. That instruction on tuberculosis be continued in the public schools and begun in all other schools where it is not taught at present.

9. That in communities where hookworms prevail, steps be taken to eradicate them because the lowered vitality which they induce predisposes strongly to tuberculosis.

10. That as many of the above recommendations as possible be put in force in the provinces.

Literature of more than 50 pounds weight, which explains in detail the foregoing recommendations; was brought by us to Manila, which, owing to its bulk, does not accompany this report; but it is suggested that this be filed at the Bureau of Science or the Bureau of Health, where those who may be interested further may examine it at their leisure.

FERNANDO CALDERON,
Delegate from the Philippine Islands
to the Third International Congress on Tuberculosis.
VICTOR G. HEISER,
Delegate from the Philippine Islands
to the Third International Congress on Tuberculosis.

The foregoing recommendations received unanimous indorsement at the second session of the Sixth Annual Meeting of the Philippine Islands Medical Association, and have in effect been adopted by the Government as evidenced by the appropriation of ₱35,000 to commence antituberculous measures. It is proposed to do this by opening a tuberculosis dispensary in the city of Manila with a trained nurse on duty at the dispensary and another trained nurse to visit the patients in their homes all, of course, to be under the direction of a competent medical man. It is also proposed to start a night camp on one of the elevated sites near Manila where popular lectures on tuberculosis and practical instruction will be given, the latter to be on sleeping, eating, disposal of sputum, etc. Those who are actually afflicted with the disease will be provided with sleeping quarters for periods of several weeks, and it is hoped that when they return to their homes they will continue the régime taught at the night camp. It is believed that in this way a large number of people can permanently be benefited. For the actual treatment of incipient cases it is proposed to construct a number of individual shacks in the mountains of Benguet in order to ascertain whether the cool atmosphere and the elevation of that region can be counted upon to be of material aid in the treatment of tuberculosis in the Philippines.

REMEDIAL TUBERCULOSIS MEASURES.

Marion A. Spratt, in the Bulletin of the Missouri State Board of Health, has so admirably stated certain facts in connection with the tuberculosis problem that the article is freely quoted from without further acknowledgment.

The war on tuberculosis has two points of attack: (1) To cut off the supply of tubercle bacilli which cause the disease; and (2) to prevent the accumulation of susceptible persons. It is first to be remembered and always to be kept in mind that the war is on the disease, and not on the person afflicted with the disease. Every step taken is to check the spread of tuberculosis from one part of the body to another, from one person to another, simultaneously with the increase of chance for relief and cure of the tuberculous person.

The immediate thing to do is to get the confidence, coöperation, and control of every person who has tuberculosis. This involves first, the recognition of the disease in a tuberculous subject, and second, getting information of the existence of all cases of tuberculosis. Few cases of tuberculosis are recognized at the start.

It is common practice for a physician to be called in only upon severe hemmorrhage or some other debilitating and alarming sympton. For months, and perhaps for years, then, the majority of cases of tuberculosis are at large spreading infection broadcast before either subject or public are aware of the condition. But even after the disease is recognized by the attending physician, it is no easy task to learn that that case exists in the community. While, to be sure, this disease by its very communicable and dangerous nature comes under the general law requiring every case of such diseases to be reported by the attending physician and by the householder to the local health officer, yet the fact has been that popular prejudice, rather than the statute, has dictated public policy; so that neither physicians nor householders always observe the law which aims to have all cases recorded by local health officials and under their supervision. It must be said, however, that as fast as physicians find their clientele dropping this prejudice against being recorded as having tuberculosis, the law will be complied with and all cases of tuberculosis will be known.

The initial step is to talk a great deal about tuberculosis in every community, to familiarize the public of that locality with the possibility of cure if the disease is taken in time, with the salient dangers of tubercular infection, and the need of specific preventive measures to check the spread of the disease. Informal talks before special gatherings, as school children, working men, clerks, business men, mothers, teachers, young women's and young men's associations, making appeal for self-protection and relief and cure of this disease, the preventable and curable malady, will start public sentiment against tuberculosis. Free lectures accompanied by lantern slides, given by some acknowledged authority, are most profitable. Leaflets issued and distributed are a useful method of attack. Nothing, however, tells the story so well as an exhibit. Exhibits may range from the simplest, consisting of pictures, photographs, and diagrams; to the most extensive and pretentious, consisting of charts, models and elaborate details. Perhaps the simplest exhibit that can be devised is to extract from magazines pictures showing bad conditions as contrasted with pictures showing healthful conditions in the home, in the school, in the street, in the workshop, or in the cow barn. One contrivance which can be readily moved from room to room, in the schools, and from one school to another, is an easel, say 6 or 8 feet by 4 or 5 feet, stretched with canvass on which pictures and photographs can be pinned, pasted or hung * * * .

Such work should be followed by an attempt to instruct the tuberculous persons of the community, through the family physician, or otherwise, as to the safe and necessary régime in exercise, foods, outdoor life, preventive measure, etc.; and later a class may be formed to whom instruction, and explanation may be given regarding various special features of the anti-tuberculosis movement, as dispensaries, day camps, sanatoria, shacks, sleeping hoods for home use, porch sleeping rooms, outdoor amusements and diversions and other essentials for the good of the tuberculous person. The support of a trained nurse to visit tuberculous persons in their homes is a progressive, nay, an indispensable factor in this work against tuberculosis. The nurse makes effective the recommendations which your preliminary educational work has sought to make known. The whole policy works toward the establishment of a dispensary for either village or country, of a day camp for every town and toward the erection of sanatoria here and there throughout the State. To these channels of enlightenment, relief, and protection, tuberculous persons will easily be induced to go. Every locality should have readily accessible for its tuberculous persons a dispensary or its equivalent, where sanitary instruction and medical advice may be had free of cost. A day camp is a humane provision made in the city park, in a vacant lot or on an abandoned farm where tuberculous persons of a community may go and spend the entire day in rest, receiving there needed instruction, treatment, nourishment,

and diversion. Such a camp is supplied with reclining chairs, hammocks, possibly a tent, one nurse or more, and abundance of nourishing food, such as milk, eggs, etc. Both dispensary and day camp when properly conducted are not only sources of relief, comfort and perhaps cure, for the sick and suffering, but are important centers of education to the entire community. With these specific ends in view, the preliminary policy may be worked out by each locality, by each club, according to the local need. Success is assured if the educational policy is accompanied by practical relief and benefit even to a limited number of tuberculous persons. Every tuberculous person helped is a fighter won, and from a source of dangerous infection to his fellows, becomes a center of education and prevention to all those about him.

Although the immediate need is to obtain sanitary control of every tuberculous case, it is no less urgent to prevent susceptibility to tuberculosis, to learn what conditions foster the disease, and what must be done to remedy them. The most important improvements needed are in our school buildings and school régime.

Recommendations with reference to tuberculosis, made by Dr. Ariston Bautista y Lim, in his presidential address at the Sixth Annual Meeting of the Philippine Islands Medical Association:

(*a*) It is absolutely necessary to begin the struggle against tuberculosis by erecting dispensaries and hospitals where tuberculosis patients in certain stages may be sheltered or treated. It is likewise necessary that sanatoria be immediately erected for treatment on the highlands, in the open air, and at the seashore.

(*b*) The evolvement of a plan of sanitation and prophylaxis for the limitation of tuberculosis infection and its extinction.

(*c*) The inclusion of the elements of prophylaxis against tuberculosis in the public schools system, to be amplified in the higher grades.

Mercury treatment of tuberculosis.—The treatment was begun in Bilibid Hospital on January 14 this year and carried out according to the plan outlined in the report of Surgeon Wright, United States Navy, viz, by intramuscular injections of mercury succinimide, 0.013 gram every other day to toleration, with the result recorded in the following table:

Prisoner No.	Weights.						Destination.
	Jan. 9.	Feb. 6.	Mar. 6.	Apr. 3.	May 1.	Jun. 5.	
6051-1P	118.5	119	121	125	124.5	125	Returned to duty June 14, 1909.
4348-1P	124.5	119.5	121	118	122.5	123.5	Returned to duty June 25, 1909.
1812-1P	117.5	113.5	108.5	108	108.5	107.5	Returned to duty June 25, 1909.
788-1P	84.5	89	85.5	80.5			Died April 21, 1909.
5824-1P	95	97.5	95.5	88.5			Died May 7, 1909.
2180-1P	96.5	92.5					Died February 28, 1909.
5025-1P	102	96.5					Died March 3, 1909.
6667-1P	89	87.5	76.5				Died March 25, 1909.
3818-1P	92.5	87	78				Died July 13, 1909.
2703-1P	81						Died April 26, 1909.
3680-1P		136	135.5	139	140.5	144	Remaining in hospital.
5857-1P	110	111	113	120	121.5	122	Do.
299-1P	112.5	112	107.5	105	107.5	103	Do.
4054-1P	108	107.5	104.5	103.5	102.5	98	Do.
1490-1P	104	106.5	103.5	104.5	102.5	101	Do.
1097-1P	96	97.5	96.5	91			Do.
6442-1P	109	106.5	104	101.5	102.5	99.5	Do.
5106-1P	95	94.5	92.5	92.5	98	98.5	Do.
4955-1P	117	119.5	118	122.5	117.5	118	Do.
13042-1C		90	90	91.5	92	91.5	Do.

Cured, 15 per cent; died, 35 per cent; remaining, 50 per cent.

The cases were selected at random and were in fair condition; none were suffering from complications when the treatment began, but were purely cases of pulmonary tuberculosis. The percentage of cured was smaller than that obtained by the routine treatment.

TYPHOID FEVER.

It has been the prevailing impression among medical men that typhoid fever, especially that occurring among natives of the Islands, never originated in the Philippines, and that the cases which did occur could probably be traced to infection introduced from the outside; that is to say, from a foreign country. Cases among the American soldiers were attributed to infection brought from the United States either in food, clothing, or the intestines of individuals. Cases among the Japanese were attributed to the same cause, and those which occurred among Filipinos were thought to be due to direct or indirect contact with Americans or Japanese or other persons who introduced the disease. (It may be pertinent to remark that typhoid fever in the Philippines is much more prevalent among Japanese than among any other race. They seem also to be more prone to cholera.)

While the hookworm commission was at work at Taytay, two cases of typhoid fever were encountered which presented all of the pathognomic symptoms of the disease, and the diagnoses were confirmed by positive Widal reactions. Both of these cases occurred in Filipinos who had not been outside of Taytay for many weeks prior to being stricken, and who had partaken only of the food and water which was common to the remainder of the inhabitants. They denied using any food introduced from the outside, with the exception of rice and fish, which, however, were common to all the residents. On account of the daily sanitary inspection which was made by the members of the Commission for more than five weeks before these cases came under observation, it is not likely that any case, of a recognizable form at least, existed in the town during the preceding five weeks. From the foregoing, it would appear that these cases were contracted from a local source.

It is generally held that typhoid fever is not as common in the tropics as in temperate climates, and while it is true that there are fewer cases in the Philippines, yet experience here would seem to indicate that this is not due so much to the peculiarity of the climate as to the fact that there are no reservoirs or other common sources of water supply which furnish water to a large number of people; hence, infection on a large scale is not possible. It is quite generally admitted now that one of the sources of spread of typhoid fever is through milk, which has been contaminated by infected water or indirectly through the hands of the bacilli carriers. In view of the fact that the use of milk on a large scale is practically unknown in the Philippines as well as in

many other tropical countries, it is evident that another common means of spreading the disease does not exist here.

From the foregoing it is obvious that the common vehicle by which typhoid fever is spread in temperate countries is, as a rule, not available in the Philippines, and what is true here is probably true in every tropical country, and for that reason the disease is not so commonly encountered.

YAWS OR FRAMBŒSIA.

During the year Captain Phalen of the Army Board for the Study of Tropical Diseases has been making a study of yaws, and he has collected much information which indicates that this disease has a third stage similar to that of syphilis. Many of the cases of extensive skin ulcerations which are so common in the Philippines and which produce such frightful deformities by the contractures caused by the scar formation, these often resulting in serious interference with the nerve and blood supply with the terminal results of that condition, are perhaps due to yaws, and show the importance of promptly treating this disease when first contracted.

BAGUIO HOSPITAL DIVISION.

This hospital has again afforded relief to large numbers of persons, no less than 1,760 out-patients being treated and 342 indoor patients.

It was again demonstrated that for amœbic dysentery, the climate and the hospital facilities for obtaining properly cooked food is almost a specific in the treatment of this disease and successful in every respect, and the hospital affords the same advantages which an institution of this kind offers in a temperate climate.

With the transfer of the hospital to the new building July 21, 1908, the Benguet Sanatorium ceased to exist, the name of the institution being changed to the Baguio Hospital, all sanatorium features having been discontinued.

During the month of April satisfactory arrangements were made with the different mining companies of Benguet whereby their employees may be admitted to the hospital upon reasonable terms, the companies guaranteeing the charges which may be incurred.

Subsistence.—There is probably no place in the Philippine Islands where a greater variety of fresh vegetables of good quality may be purchased in the market than in Baguio. Potatoes, tomatoes, parsley, parsnips, carrots, beets, lettuce, spinach, cabbage, green onions, string beans, peas, squash, vegetable marrow, salsify, radishes, kale, Brussels sprouts, mulberries, huckleberries, etc., being obtainable from the Government experimental station, in the Baguio market, and from Haight's place at Pawi. Local merchants have responded to the needs of the community by installing refrigerators, thereby enabling them to supply the public with refrigerated meats of excellent quality. Benguet coffee, which is

of excellent quality and flavor, may be purchased in the open market. The new ice plant at Camp John Hay furnishes ice to the public at a minimum of cost.

Water supply of Baguio.—From the point of view of preventive medicine, and with especial regard to water-borne diseases, the past year has been very satisfactory. The gastro-intestinal troubles, which heretofore have commonly appeared about the beginning of the heavy rains, have been almost entirely eliminated this year by instituting the proper precautions regarding drinking water.

Through the efforts of the commanding officer, an ice and distilling plant has recently been erected and put into operation at Camp John Hay, and information has been received from the surgeon on duty at that post to the effect that the garrison has suffered very little from diarrhœa during the season.

The Constabulary School, a recent acquisition to Baguio, is supplied with water free from any possible contamination, and its personnel has been noticeably free from gastro-intestinal disorders. All drinking water is boiled.

While an effort was made last year to boil all drinking water at the teachers' assembly grounds, the attempt was not very successful, as the plant was limited in capacity, and boiled water was not always obtainable. This year all water supplied passed through heated coils bringing it to the boiling point, and as a result there were practically no gastro-intestinal cases from this source.

Some little trouble occurred among the guests in the hotels and restaurants until distilled water was used, since which time no complaints have been noted in this respect.

The hospital water supply is free from surface contamination, at least from human pollution. Water for drinking, culinary, and hospital purposes is sterilized by boiling. No ill effects whatever were observed among the patients or employees that could be ascribed to drinking Baguio water. The few diarrhœa cases that were admitted to the hospital for treatment, although allowed to drink boiled Baguio water freely while in the hospital, promptly responded to treatment.

The adverse criticism regarding Baguio water is wholly unwarranted. Baguio has as pure water as any town in the Philippine Islands, and much purer than the vast majority of towns. This refers to towns using surface water only. It has yet to be shown that the people living along the course of and deriving their water supply from the Bued, Irisan, and Agno Rivers and their mountain tributaries do not enjoy as good health with reference to water-borne diseases as people living in similar locations anywhere in the Philippines. The gastro-intestinal troubles from which the lowland people residing along the above-named water courses suffer are largely the result of drinking water—not in

Baguio—but after the Baguio water has become polluted by flowing through the lowland country. One may not expect to drink unboiled water in the tropics, either in Baguio or elsewhere, and continue to enjoy good health.

BOARD OF DENTAL EXAMINERS.

During the year the Board held twelve regular meetings and one adjourned and one called meeting for the transaction of business, and examined three *cirujano* ministrantes and one Filipino dentist who graduated from a dental college in the United States and was the second to obtain a diploma from a recognized school since the dental law went into effect.

Many inquiries were received by the Board from persons residing in the United States who desired information with regard to the conditions which govern the practice of dentistry in the Islands.

There were collected from all sources ₱40, and expended for all purposes ₱334.

BOARD OF MEDICAL EXAMINERS.

The following extract is made from the report of the Board of Medical Examiners to the honorable the Secretary of the Interior:

Since the adoption of a definite preliminary educational qualification for matriculation in medical colleges of the Philippine Islands, the Board of Medical Examiners has been given recognition by the American Confederation of Reciprocating Examining and Licensing Medical Boards of the United States, and it would seem desirable to so modify the present medical law that graduates of accredited medical schools in the United States could, on presentation of undoubtable data, be able to register here without examination; also, that physicians who have been able to obtain civil-service certificates as medical inspectors should be granted like privileges.

It is of growing importance to the general public and to the medical profession that the elimination of the *cirujano ministrante* from legal recognition as a practictioner be accomplished speedily. It is practically impossible to limit his powers in the provinces and he has just sufficient knowledge to be a menace in a community. With the educated and trained Filipina nurses in the field, and the supply of young physicians steadily increasing from the classes of Santo Tomás University and the Philippine Medical School, there is not now the apparent necessity for the *cirujano ministrante* which at one time there might have been.

The status of the midwife is very unsatisfactory, and the Board wishes to put on record its earnest protest against the use or indorsement of so great an existing evil as the uneducated midwife, and it would urge that a certain number of the Filipina trained nurses be given especial training as midwives.

The growing list of physicians in the Philippine Islands, the constant calls for information concerning them or their standing, the fact that we are now "in line" with the boards in the United States, all seem to render imperative the publication at stated intervals of an official and certified list of duly registered physicians, and the Board therefore asks for an appropriation for such purpose.

The Board held its regular meetings during the year, and examined seven doctors, twenty licentiates of medicine, and seventeen *cirujano ministrantes*. Fifteen doctors, twenty-one licentiates, and sixteen *ciru-*

jano ministrantes were registered; of these four were under section 5 of Act No. 310; seven under Act No. 1632, the first graduating class of the Philippine Medical School; and two candidates failed to meet requirements.

The total collections of the Board for the year were ₱1,280, and expenditures ₱249.33, leaving a balance of ₱1,040.67.

BOARD OF PHARMACEUTICAL EXAMINERS.

The following extract is made from the report of the Board of Pharmaceutical Examiners to the honorable the Secretary of the Interior:

The Board held two examinations, the first on July 1, 1908, at which thirty-nine applicants were present, and the second on January 6, 1909, at which fifty-seven applicants were present, and two absent, making in all ninety-eight applicants for the year. Of this number, seventy per cent obtained the required average and received certificates.

There have been issued during the year sixty-nine apprentice certificates and eight temporary certificates without examination and two Chinese druggist certificates.

There have been collected from all sources the sum of ₱1,538. Of this amount ₱200 are examination fees for the examination to be held July 6, 1909.

Treasurer's receipts on hand, ₱1,538.

The following are the salaries and fees paid or to be paid this Board from funds of the Bureau of Health:

Salary, secretary-treasurer	₱300
Fees for one member, for 39 applicants for the examination on July 1, at ₱4 each	156
Fees for two members, for 57 applicants for the examination on January 6, 1909, at ₱4 each	456
Total	912

The Board of Pharmaceutical Examiners is composed of Mariano Torres Pamintuan, president; Ildefonso Ramirez, member, and Rafael Lopez, secretary-treasurer.

CIVIL HOSPITAL DIVISION.

The following extract from the report of the chief of the Civil Hospital division of the Bureau of Health is a brief résumé of the work of this division for the fiscal year:

The total number of patients admitted for treatment was 1,691 and they may be classified as follows: Americans and Europeans (Anglo-Saxons), 960; Filipinos, 682; Japanese and Chinese, 45; East Indians, 4. There were 1,285 males and 406 female patients. Of the total 1,691 patients, 986 may be classified as those paying for accommodation and subsistence; 449 were civil employees whose salaries do not exceed ₱80 per month and who are entitled to free hospital accommodation, subsistence, and treatment; the remaining 256 patients were emergency cases and were given free treatment.

The total number of deaths for the year was 36, or a percentage death rate of 2.128 of the 1,691 patients treated. * * *

There were 21,438 patients examined and prescribed for in the office; 3,127 calls were made in the city and all the patients confined in the hospital were seen twice daily. There were 360 major operations performed; 1,783 minor operations, and 15,350 dressings. * * *

The total number of prescriptions filled at the hospital dispensary was 17,663: this includes medicines dispensed to the Civil Government employees not confined in the hospital and also the medicines given to the patients that were in the hospital.

CLERICAL DIVISION.

The following interesting extract from the report of the chief of the clerical division of this Bureau reveals a condition that is generally not taken into consideration in the estimating of efficiency of the public service in the Philippines.

The difficulty in obtaining permanent personnel has not been abated. The restless tendency of American employees seems to be a permanent factor to be dealt with. The lack of an assured future in the service is believed to be the foundation for the constant movement. Those who go home go because they believe they should not waste time in a service which does not assure them a career; those who transfer do so because of slightly larger salaries and to obtain a little more money while in the Islands; those who resign do so to accept positions in private life which seem to hold out a future. A general restlessness prevails which will not be overcome until the average employee feels assured that he will not work for ten years and have to start over again at the end of that time.

Out of six American clerks in this division on June 30, 1909, there are only two who have had as much as two years' service, there having been during that period of time nine new clerks appointed and ten separations. The reasons for changes were as follows: Four resignations, ten transfers to other Bureaus.

The tendency to pay higher wages to Filipino employees is gradually raising the cost of clerical work far ahead of what is should be and will eventually end in Filipino employees receiving in their own country a wage greater than that paid for similar work in the United States. The reason for this tendency seems to be that the different Bureaus of the Government are in competition with each other and with commercial firms for desirable men who combine ability and faithfulness. A record kept of applications for clerical and messenger positions shows that for one week the average number of applicants was seven per day. These were generally without any training whatsoever and were looking for anything they could find to do in an office.

Effort has been made to obtain a mobile force to exchange duties and substitute in case of absence and it is believed that this end will be obtained.

The clerical force has performed a large amount of work during the year, being put under a severe strain during the cholera epidemic, having to supply trained clerks for the different hospitals and conduct the work of the Bureau in addition. Extra duty and overtime work was cheerfully performed.

The financial report for the year will be found in the Appendix.

CULION LEPER COLONY DIVISION.

The following extract from the report of the chief of the Culion leper colony division of this Bureau is a brief record of the colony for the year:

June 30, 1908, there were 1,333 lepers at the colony; on the same date this year there were 1,741. During the previous fiscal year there were eight trips made, aggregating 1,554 lepers; during the last corresponding period there were seven trips made, aggregating 1,318, on the following dates: August 10, 257;

November 30, 167; January 24, 196; February 5. 199; April 5, 171; May 13, 99; June 17, 229. Up to June 30, 1908, 2,654 lepers had been received at the colony; by the same date this year there had been received 3,972. Nearly every branch of the Filipino people is now represented with the exception of some of the non-Christian tribes. There are now two Spaniards, who, with three Chinese, are the only foreigners at the colony.

The following improvements have been accomplished during the year:

The new hospital, the excavation for which was referred to in last year's report, is now nearing completion. The first concrete for the foundation was placed early in November and the building is actually finished with the exception of the plumbing and the inside work. The reinforcing was exceptionally well done, and is, without doubt, the best piece of permanent work on the colony. This was constructed with unskilled native labor under the supervision of one American constructing foreman. It is 75 meters long, constructed as a double hospital, a wing for each sex, with central administration, operating, sterilizing rooms, kitchen, baths and toilet conveniences. Nearly as long a time was consumed in excavating the rock from the site chosen, which necessitated considerable blasting, as was used to do the actual construction work.

Tenement house.—A building 8 by 24 meters in close proximity to the above is under construction. It is also of reinforced concrete, and is intended as permanent quarters for lepers, as an annex to the hospital, for cripples and for those, who, while not actually sick, are unable to get around and can be better cared for in close proximity to the hospital.

New roads.—A new road has been made from the "proposed new municipal center" to the hospital, extending around the crest of the hill. This is an 8-foot level road, shaded and affords another means of communication with the new buildings without having to pass through the entire colony.

Another road runs from the canteen along the shore to Balala. This is the shortest and most convenient way of reaching the colony and after midday is entirely shaded. This road now enables the issuing of rations and supplies to better advantage than by lighter and boats, especially at low tides.

Repairs to buildings.—The typhoon which visited this vicinity last September and October blew down three nipa houses, among which was the theatre building. These buildings had been constructed with soft wood *harrigues* and collapsed when struck by the force of the storm. Although all were occupied at the time no one was injured.

Shade trees.—During this year the lepers have taken some interest in the planting of shade trees. So far these have been principally cocoanut trees set out along the roads.

At Balala, the nonleper resident part of the colony, the following has been accomplished:

Wharf.—The wharf mentioned in last year's report is now completed. This is 100 meters long and 5.5 meters in width and extends out to deep water. This is constructed of rock blasted out from the near-by hillside. An anchoring buoy has been placed 250 meters from the wharf, and after a short extension to the latter is made, it is believed that boats can discharge directly on wharf.

Temporary quarters for employees.—A light-material house intended for temporary quarters, necessitated by the increase of employees, has been erected.

Repairs to employees quarters.—The four upper buildings on the hillside are in bad condition and can be but temporarily repaired. The *harrigues* in all of these are mostly of soft wood and have been entirely eaten away by white ants below the ground. Temporarily bracing has been effected, but in the event of a typhoon these might collapse. The office building at present is in the worst condition.

Mortality.—The mortality during the year was as follows:

July, 1908	145	January, 1909	19
August, 1908	151	February, 1909	39
September, 1908	163	March, 1909	54
October, 1908	96	April, 1909	52
November, 1908	20	May, 1909	47
December, 1908	29	June, 1909	48

The early months of the year, July to October, the mortality rate was very high compared with the following months. These first four months claimed nearly twice the number as during the remaining eight months. This is believed to be due to the following reasons; the great number of new arrivals admitted during the last half of the last fiscal year (1,175 out of a total of 1,554 for the entire year) and naturally a large number of these were received in an extremely bad condition, many dying within a few months after admission; the climate conditions during these months, being the rainy season, is no inconsiderable factor. Those who were very sick stood poorly the changes in temperature and the different surroundings from their accustomed place of living. Beriberi was also prevalent during this period. * * * There were not as many admissions this year (1,318) as the previous one (1,554) and correspondingly not so many deaths occurred, 958 for last year and 863 for the present one. Thus it appears that in proportion to the number and rapidity with which new arrivals were received, and their condition on admission, does the mortality rise and fall. Since the arrival of the first lepers May 27, 1906, there have been 2,171 deaths of the 3,972 admitted. Of those admitted during the first years who now survive. a death is comparatively infrequent, notwithstanding the increased duration and the steady progress of their diseases.

The causes of death were as follows:

Asthma and bronchitis	1	Myocarditis and chronic nephritis	5
Beriberi	232	Nephritis	70
Cachexia leprosa	516	Postpartum hæmorrhage	1
Debility, senile and congenital	14	Stillborn	1
Dysentery	9	Septicemia	1
Enteritis acute and chronic	3	Tuberculosis	7
Embolism	1		
Infantile paralysis	1	Total	863
Malaria cachexia	1		

Four mild cases of smallpox occurred at the colony during April. After quarantine was established and vaccination performed no further cases developed.

The behavior of the colonists has been good. No serious offense has been committed this year. The number escaping or attempting to escape has increased, 36 having at various times escaped, 12 of whom have been returned, leaving 24 still at large. The last escapes succeeded in getting away by stealing a large *banca* from Balala, and there being no launch at the time here, it was impossible to apprehend them.

INSPECTION DIVISION.

The division is under the charge of the Assistant Director of Health, and has general supervision over the sanitation of the city of Manila and the management of the cholera in the provinces.

The work of this division was greatly increased owing to the cholera epidemic of August and September.

During the cholera campaign, the five health districts of Manila were subdivided into 62 subdistricts.

Total personnel—inspection division.

Assistant Director of Health	1
Medical inspectors	19
Municipal physicians	8
Sanitary inspectors	15
Assistant sanitary inspectors and sanitary police	85
Chief disinfector	1
Assistant chief disinfector	1
Assistant disinfectors	7

Personnel of inspection division—city of Manila.

	Subdivisions.	Medical inspectors.	Municipal physicians.	Sanitary inspectors.	Assistant sanitary inspectors and sanitary police.	Disinfectors.
Station A	22	1	3	3	28	[a]1 [b]4
Station C	14	1	2	1	17	0
Station I	9	1	1	1	11	0
Station J	10	1	1	1	13	[a]1 [b]3
Station L	7	1	1	1	7	0
Division of sanitary engineering	0	0	0	3	0	0
Total	62	5	8	10	71	9

[a] Chief. [b] Assistants. [c] Assistant chief.

This is the present organization. This force provides sufficient personnel to place one assistant sanitary inspector in each subdistrict, with three American sanitary inspectors in Meisic (one acting as chief disinfector), and one each in Tondo, Sampaloc, Intramuros, and Paco, with a sufficient reserve for leaves of absence and sickness.

Medical inspectors are on duty as follows:

Central office	1
In charge of stations	5
Prison sanitation division	1
San Lazaro Hospital Division	1
Baguio Hospital division	1
Total	9

Of the remaining medical inspectors, four have just arrived from the United States and are under instruction, three in Manila and one in field work combating cholera in Albay Province; two are en route from the United States; one Filipino medical inspector is critically ill

with an incurable disease; one medical inspector is on leave in the United States; one is in charge of a cholera campaign in Pampanga Province; one is in charge of the Las Piñas hookworm commission, and one is in charge of the cholera campaign in Ambos Camarines Province.

There are ten sanitary inspectors on duty in Manila in the health stations and the sanitary engineering division. There is one vacancy. Four sanitary inspectors are available for provincial duty. These are distributed as follows:

Antique in charge vaccination party	1
Ilocos Sur, acting district health officer	1
Rizal, in charge vaccinating party	1
Bataan, in charge vaccinating party	1

This organization also leaves a small reserve of fourteen Filipino assistant sanitary inspectors for provincial duty. They are at present placed as follows: Twelve with Medical Inspector Clements combating cholera in Pampanga Province, one with the vaccination party in Rizal Province, and one with the Las Piñas hookworm commission.

During the year there were 546,565 inspections exclusive of special inspections. There were 6,898 disinfections by the regular disinfection brigades exclusive of the measures of general disinfection of whole districts necessitated by the epidemic of cholera and carried out by emergency employees.

There were 6,719 inspections of license applications for food and drink.

The force available for provincial work was augmented by the addition of two competent district health officers whose districts were fortunately free from cholera, Dr. Vicente de Jesus from Tayabas and Doctor Montinola from Laguna, who were used in various provinces where the cholera outbreak was too much for the local officials.

It was not necessary to send assistance to Medical Inspector Pond in charge of Cebu and Oriental Negros, nor to Medical Inspector Cullen in charge of Samar and Leyte, although these districts were repeatedly reinfected from neighboring provinces.

The foregoing presents many examples of the ability of medical and sanitary inspectors sent out from Manila to suppress cholera outbreaks promptly. The force of medical and sanitary inspectors in Manila was limited, and their services could ill be spared from Manila even in July and August, while in September and October Manila faced a situation which demanded the presence of every available man at his post of duty. In view of these facts it was necessary in some instances to depend entirely upon the local health officers and their more or less organized provincial work. Certain district health officers seem to lack the initiative to devise means of accomplishing an end.

The lack of municipal health officers who could furnish prompt

information to the district health officer is entirely the fault of the district health officers. He recognizes the necessity for such subordinates, he has authority to secure and nominate them, but in many instances he has failed to complete his provincial organization, through sheer indifference or lack of energy. As a result, cholera often exists unreported for weeks, and a single focus becomes a widespread infection.

The imposition of intermunicipal quarantines is a lazy man's remedy for a cholera epidemic. Such measures, in a majority of instances, are worse than useless. They can rarely be made effective and in most instances constitute an unjustifiable restriction of commercial and personal rights.

PRISON SANITATION DIVISION.

The experience which the Bureau has had in prision sanitation makes concrete proof that modern sanitary science properly applied will yield certain definite results which can be foretold with almost mathematical precision; and there is probably no chapter in American sanitation of the Islands that is more satisfactory nor which has brought about a greater improvement in local conditions than the results obtained in prison sanitation.

The Bureau of Health is charged with the supervision of prison sanitation throughout the Philippine Islands, but as the Government penitentiary known as Bilibid Prison is located in Manila, the installation of improvements has usually been first carried out in this institution.

At the time the United States took possession of Bilibid Prison, it was found to consist of a large number of stone buildings that had been built in an age when the modern principles of sanitation were but imperfectly understood. It was but natural to expect that the morbidity and mortality rate of prisoners kept in such conditions would be necessarily high. From the very outset, it has been the object of the American Government to remedy these conditions as rapidly as the funds available would permit. This work has been carried steadily forward, and it has fully justified the confident expectations of a decreased sick report and death rate.

During the year covered by this report, a large amount of this work has been actually completed. A new, modern, reinforced concrete hospital of 376 beds capacity was completed in February, and has been occupied since that time. The overcrowding has been still further relieved by replacing a number of the old brigade buildings by reinforced concrete structures, which provide for an adequate amount of air space. Steel bunks were installed, which took the place of the insanitary bamboo fixtures that harbored so many vermin in the past and defied successful cleaning. The drains and sewers have been still further improved, and work is now actually under way for the installation of a complete modern sewer system, which will connect with the general city sewer that has also only recently been completed.

Under the auspices of Bilibid, a penal colony has been established at Iwahig, Palawan, where a Bureau of Health physician is also stationed.

The policy pursued in Bilibid has been practiced more or less in the provincial jails by the district health officers.

The hospital facilities of Bilibid comprise two distinct hospitals, designated as Hospital "A" and Hospital "B", the former for general cases, the latter for tuberculosis. Up to 1904 there had been but one hospital. The first separate hospital for tuberculosis patients was established in a rented building on Calle Marques de Comillas, near the Ayala Bridge. The present hospital for this class of patients is located on the prison grounds, and occupies a new modern structure erected for the purpose, with a roof garden, so that the open-air treatment can be carried out under very favorable conditions.

One of the prison rules is to provide each prisoner with some suitable form of employment. The shops, the offices, the band, the prison schools, and the various public works, are all utilized for this purpose.

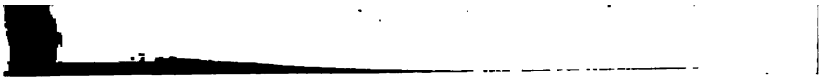
The prison ration is carefully selected and varied on different days. (For the component part of ration see "Diet and Nutrition of the Filipino People.") When the prisoners are out on public work of an exacting nature, this ration is frequently supplemented from the local markets.

The drinking water is all sterilized and kept in barrels or cans having a locked cover and spigot. Water from any other source is forbidden under strict discipline.

Daily sanitary inspections are made by the hospital steward, who reports to the chief of the prison sanitation division any condition that he may find which requires further investigation or action. As soon as a case of dangerous, communicable disease is found, the patient is isolated, the building quarantined and disinfected, and all the prisoners quartered in it are given a bichloride of mercury bath, and their clothes submitted to a thorough disinfecting process. Cholera cases are treated in an isolation ward of the prison hospital, but all other patients suffering from dangerous communicable diseases are transferred to San Lazaro Hospital under guard. In case of smallpox, all contacts are vaccinated and after the cleansing process has been gone through with, the matter is at an end, as the patients themselves are retained at San Lazaro Hospital until there is no further danger of disseminating the infection.

All latrines, garbage cans, night tubs, and sanitary pails are screened and made fly-proof. Night tubs and garbage cans are emptied daily.

Cuspidors with covers are placed about the grounds at convenient intervals and the prisoners are required to use them. Expectorating on the ground is strictly prohibited.

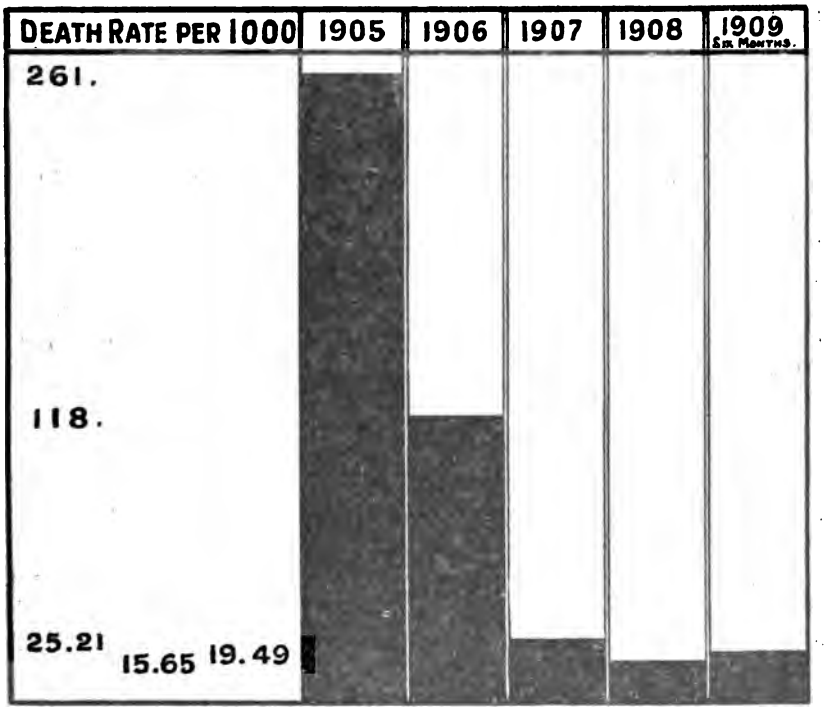


The prison grounds are sprinkled daily to allay the dust, by which means a source of irritation to the respiratory tract and its consequent dangers are obviated.

The buildings formerly painted red and more recently white, are now of a slate color, which prevents to a great extent the reflection of the glare of the tropical sunlight, and, together with the suppression of the dust by sprinkling, exercises a potent influence in the prevention of diseases of the eye.

The hospital discipline is necessarily strict. Before a patient is admitted he is placed in quarantine and while there the urine, feces, and sputum are microscopically examined as a routine measure; and if necessary, he is submitted to appropriate treatment.

The measures adopted by the Bureau of Health since it assumed charge of prison sanitation under the provisions of Act No. 1407 which went into effect November 1, 1905, have not been in vain, as may be seen from the following diagrams which, with the exception of the one for 1908 and the first half of 1909, were prepared by Dr. Edward S. Shattuck, formerly the chief of the prison sanitation division of this Bureau.



IWAHIG PENAL COLONY.

The Iwahig penal colony was established November 16, 1904, for the purpose of relieving the overcrowded conditions in Bilibid, and in order to give those prisoners who show a desire to reform a chance in life. The colony is located near Puerto Princesa, the capital of the Province of Palawan, on the site of a similar colony established by the Spanish and abandoned on account of the excessive death rate from malaria, dysentery, and beriberi. When the present colony was established it was generally predicted that it would be a failure on account of the unhealthfulness of the location, but the unfavorable apprehension has been doomed to disappointment. No experimental project of the Government has been more successful than this venture.

Deserving prisoners are allowed to join their families and begin life over again as colonists. When the colony was first established it was greatly feared by the prisoners who regarded a selection for residence there as equivalent almost to a death sentence. Now it is a veritable Mecca for those who desire to work out their own salvation. The colony is not only growing from accessions from Bilibid Prison, but also in the old fashioned anti-race-suicide way.

During the fiscal year 583 colonists were treated in the hospital. The death rate per thousand among the colonists was 18.69 while for the general population it was 16.58 per thousand. The average percentage of disability among the colonists was 2.32. There was a total of ten deaths among the prisoners, the majority being caused by tuberculosis. The physician in charge believes that the cases carried the infection with them to the colony and recommends the establishment of an observation camp for all new arrivals.

During the year 109 outsiders were admitted to the colony hospital upon application, which fact represents in a forcible way the favorable attitude of the people to the new order of things.

PROPERTY DIVISION.

The work of this division was unusually heavy during the year; in addition to the constant increase in the amount of property and requisitions filled, the cholera outbreak of last year required an extraordinarily large amount of supplies. During the cholera outbreak in Manila in order that anything and everything necessary might be had quickly, orders were issued that all persons connected with the Bureau would

buy direct or ask the property division to obtain it. This system resulted in supplies being received quickly, but the difficulty in passing upon the merits of the bills which were later submitted for payment can be well imagined. Frequently articles were delivered of which there was no record. As soon as the danger point in the cholera outbreak had passed, this practice was of course discontinued.

The chief of the division is entitled to much credit for the resolute manner in which he set to work to straighten out the resulting tangles and by the close of the year had almost succeeded. All of the employees of the division are entitled to the thanks of the public for the long hours they worked in aiding in suppressing the cholera outbreak.

The following is extracted from the report of the chief of the division, which shows the magnitude of the operations of the division and the difficulties connected therewith.

At 7 p. m. September 16 the Acting Director of Health called for the delivery of 300 sacks of lime at 7 a. m. the next morning. The division did not have 10 sacks on hand, not having used 100 sacks in two years outside of Bilibid Prison. All business houses were closed at that hour and the Bureau of Supply carries no stock. Three hundred sacks is a very large order for Manila, but the last of the 300 was delivered at 8.15 the next morning. From that date to November 25, 63,391 sacks of lime were purchased and delivered to all parts of the city. The few limekilns along the Caloocan road and at Malabon had to be pushed night and day to supply the quantity required and this meant a great amount of urging to keep the kilns at work. On more than a dozen different nights the time between 9 p. m. and 3 a. m. was spent by the undersigned between Manila and Malabon rousing out the Chinese and Filipino lime burners to get a supply for the next day. * * *

Incidentally the property division sold to the lime makers, at ₱10 per ton, 12 tons of coal dust and siftings, refuse that had been condemned by an Auditor's inspector and ordered turned over to the Bureau of Printing without charge for them to try and burn in their boilers, and after the first ten days arrangement was made allowing 5 centavos on each serviceable sack returned to the sellers. Several thousands of pesos were saved in this way.

The opening of the new insane building at San Lazaro as a cholera ward required the purchase of entire new equipment, and the same was true of the Mary Johnston Hospital, the building having just been completed and turned over to the Bureau of Health for the emergency.

All transportation used by the Bureau was ordered through this office and keeping account of the same in order that the bills might be checked was no small item, as for a time everyone connected with the Bureau seemed to be entitled to transportation, ranging from a saddle horse to an automobile.

The extra work was performed by the regular force and one additional American inspector used outside to check up supplies delivered to stations, and after November 20 one additional Filipino clerk to assist in the office paper work.

During the year 492 general requisitions were received and filled from the following sources:

Provincial requisitions	260
Health station requisitions (does not include verbal requests for cholera supplies)	65
Central free dispensary requisitions	16
Central office requisitions (does not include verbal requests for cholera supplies)	29
San Lazaro Hospital requisitions (does not include verbal requests for cholera supplies)	11
Civil Hospital requisitions	17
Prison sanitation division requisitions	17
St. Luke's Hospital requisitions	12
Mary Johnston' Hospital requisitions (does not include verbal requests for cholera supplies)	12
Philippine Medical School requisitions	4
Culion leper colony requisitions	19
Baguio Hospital requisitions	15
Iwahig penal colony requisitions	10
Board of pharmaceutical examiners requisitions	2
Board of medical examiners requisitions	1
Division of city schools requisitions	2
Total	492

To fill these requisitions 80 requisitions for general supplies were prepared and forwarded to the Bureau of Supply, 162 requisitions to the Bureau of Printing covering printed matter required by the Bureau, the balance being filled from stock or purchased from other Bureaus or in the open maket. * * *

In addition to the above, 1,380 requests for vaccine virus aggregating 2,792,250 units, were received and filled, necessitating the careful packing of from 2 to 100 tubes of vaccine in cotton and then in the mailing boxes, wrapped and addressed, and receipts typewritten and mailed to the requisitioners, careful check kept that these were returned and properly numbered and filed.

Ninety-two requests for the purchase of supplies were received and filled from individuals and other bureaus during the year.

Five hundred and six inter-Bureau vouchers were received from the Buerau of Supply, checked, entered on the card system, and receipts prepared and forwarded to the divisions for which the supplies were purchased.

Additional inter-Bureau vouchers covering supplies to the value of ₱40,277.15 purchased from the Bureau of Printing, Bureau of Science, Bureau of Public Works, and Bureau of Prisons were taken care of in the same manner.

Bills covering the open-market purchase of ₱80,203.45 of general supplies had to be carefully checked, entered on cards, and vouchers prepared and signed.

During the year 196 shipments were made by boat and 108 by railway, for which bills of lading had to be prepared and signed. In addition one spring wagon has been employed delivering these supplies to boat and railway and filling hospital and station orders in Manila.

The purchase, receiving and loading of freight for nine special trips of the Coast Guard cutter *Basilan* was supervised by this division in addition to the necessity of having at least one employee present on each sailing day of the regular boat to receive and check freight.

The total value of supplies, exclusive of subsistence, purchased during the year, amounted to ₱217,288.73 divided as follows:

Bureau of Supply	₱96,789.75
Bureau of Science	28,617.86
Bureau of Prisons	188.50
Bureau of Printing	10,274.86
Bureau of Public Works	1,195.93
Baguio Hospital division	18.38
Open market	80,203.45
Total	217,288.73

On July 1, 1908, there were on hand 9 simple-remedies packages. During the year 255 were prepared and 255 expended leaving 9 on hand June 30, 1909. Most of the tablets used in these packages were manufactured at the Civil Hospital division, the bottling of the same, labeling, and packing in cases being performed by this division. Over 210,000 tablets or pills and 2,500 bottles of an average size of 75 cubic centimeters were used in this way. Over 2,000 board feet of lumber was used in the manufacture of boxes for the above and other supplies to be shipped in addition to the use of all of the serviceable packing boxes received by the San Lazaro Hospital, Civil Hospital and this office.

Subsistence supplies to the value of ₱191,760.94 were purchased during the year being divided among the divisions as follows:

San Lazaro Hospital division	₱54,019.82
Civil Hospital division	41,351.63
Baguio Hospital division	5,989.91
Culion leper colony division	90,339.58
Total	191,760.94

Bids were requested from the leading dealers and it is believed that the most reasonable prices were obtained in all cases. By taking advantage of a long market or the overstock of some particular dealer very low prices were obtained on certain lines at various times.

The work required to obtain prices on subsistence supplies, write and place the orders, check the bills and keep in touch with both markets and hospitals, not to get caught short on an article and have to pay an exorbitant price or overstock and a loss from deterioration, takes a great deal of time and the many instances have meant hours of overtime work to keep up.

The installation of the new property accounting system will, in the opinion of the undersigned, required additional clerical assistance in the property division.

SANITARY ENGINEERING DIVISION.

This division has submitted several special reports on matters of sanitary importance, and has been the means of having many additional pails installed and the hydrant service extended in Manila.

Of the plans and work outside of Manila that has engaged the attention of this division, may be mentioned the water system for school buildings in Cuyo, Palawan; the closet, garbage, and water system of Antipolo; the tenement-house system and park plans for Culion, and also an office building for the colony.

The following extract of the report of the chief of the division is submitted:

During the past year this division has, probably to a greater extent than ever before, taken benefit of the liberality of the general laws giving the Bureau of Health supervisory authority over sanitary matters throughout Manila and the Philippine Islands. * * *

The routine functions of this office now consist as follows:

1. Supervisory control of all building operations throughout the city, with special reference to light, ventilation and drainage.

All building plans presented to the municipality are forwarded to this division for action on the above subjects before permits for construction are issued. The completed structure must be approved before same may be occupied.

2. All plumbing work is under the supervisory control of the sanitary engineer acting under instructions from the Director of Health. All approvals for completed plumbing work are countersigned by the sanitary engineer.

The sanitary engineer is a member and secretary of the Board of Plumbing Examiners.

3. The structural sanitation of all existing buildings of the municipality is handled directly from this office. A tabulated statement of work of this nature accomplished during the past fiscal year is appended.

4. In addition, under orders from the Director of Health the sanitary engineer inspects waterworks, drainage and sewer systems, streams and esteros within the limits of the city of Manila (and provinces), prepares plans and estimates of the cost for correcting insanitary conditions, etc., as specified in Act No. 1150 as modified by the Reorganization Act.

During October this office instituted strenuous efforts to rid the city of large numbers of insanitary shacks which had been allowed to remain and even accumulate throughout the city, and during the year 641 structures of this class were so removed.

It soon became apparent however that the city was not sufficiently provided with streets to provide for the expansion of the city naturally resulting from the removal of a surplus population from congested districts. Some subdivided land, however, was secured on the San Lazaro Estate, which is under the control of the Insular Government. With the use of this land 641 shacks as stated have been removed. A lot on the San Lazaro Estate was offered free of rent for six months to all persons evicted and 130 families taking advantage of the offer are now living on the estate. The others numbering about 511 families, preferred to scatter to the outlying portions of the city.

The number evicted however has been limited to the subdivided land available and for the past six months efforts have been made to have additional street areas opened by the municipality but with only indifferent success. In order to facilitate matters, plans have been prepared by this office of proposed subdivisions of three large tracts of land throughout the city which would easily accommodate a population of over 50,000.

Until new street systems can be laid out it will be impossible for this office to effectually correct insanitary conditions now existing in the interior of scores of places throughout the city.

As a result of the extensive fire at Paco on March 1909, a large part of that district was completely burned out. Taking advantage of conditions the districts of strong materials have been considerably extended. A project for additional streets is pending, but so far no final decision has been rendered by the Municipal

Board. The sanitary engineer has made every effort through official channels to have a system adopted at once.

On October 24, 1908, the Municipal Board made provisions for the expenditure of ₱5,000 by a committee composed of Messrs. Felix M. Roxas, alcalde of Manila; W. P. Wylie, city engineer, and the sanitary engineer of the Bureau of Health, under the direction of the Director of Health, for drainage purposes.

Of the amount appropriated ₱3,778.59 was spent on the San Lazaro Estate, ₱1,221.42 on the San Sebastian area. Later an additional sum of ₱5,000 was made available for use on interior drainage. This allotment was made by the Bureau of Lands under the approval of the honorable the Secretary of the Interior. The Municipal Board has also appropriated an additional ₱1,500 for the completion of all street drainage south of Calle Tayuman on the San Lazaro Estate. All streets are now supplied with properly graded drainage canals, as are also all of the interior alleyways. * * *

The small branch of esteros between the streets of Mendoza, San Sebastian, Bilibid Viejo, Iris, and the Estero de Bilibid had been cleaned of accumulated silt. Particular attention has been given as an experimental measure to the reclamation of a swampy area at the end of Calle Limasana, in the interior of Calle San Sebastian.

In this district a total length of 1,000 meters of esteros were cleaned out and 19.5 meters of retaining wall constructed.

On October 31, 1908, a report was submitted to the Director of Health upon the proposed drainage of the insanitary condition of the barrio de Santa Monica, district of Tondo. The sum estimated as necessary for this work was ₱4,560. The work included the construction of a tide gate at the point where the drainage of this area naturally enters the Estero de la Reina. A complete report upon this, however, has already been submitted, to which attention is respectfully invited.

On November 25, 1908, in accordance with instructions of the Director of Health, a report was submitted on a project for the immediate correction of the insanitary conditions due principally to lowlands, combined with lack of drainage and lack of streets, in the part of Manila bounded by Calles Herran, Georgia, Vermont, Wright, San Andres, and Dakota.

The project consisted of the construction of a system of tide-water and higher level street canals, with a simple tide gate fitted into the abutments of the highway bridge of Calle San Andres. These abutments will not be disturbed in any manner by the construction of said tide gate, which will be a simple affair, hinged from above so that it automatically opens as the tide goes out and shuts as it comes in.

The cost of excavation, labor and material required was estimated to be ₱5,609.12.

On December 5, 1908, in accordance with the instructions of the Director of Health, a report was submitted on a project for the drainage of the territory included between Calle Moriones, Estero de la Reina, and Manila Bay.

The project involves the combination of a street and drainage system for the purpose of relieving the insanitary congested conditions existing in that area.

The estimated expense of the projects is ₱8,772.11.

SAN LAZARO HOSPITAL DIVISION.

Besides the hospital for the insane, with a capacity of about 450, this division includes the hospitals for leprosy, smallpox, cholera, plague, diphtheria and other dangerous communicable diseases, and provisions

are also made for the treatment of victims of the opium habit. The total capacity of this division is about 800 patients. The following extract is made from the report of the chief of the division:

* * * There are at present seven insane Scout soldiers in this department (insane department) under contract with the United States Army.

In the leper department the X-ray treatment has been continued but there is nothing new to report. The cosmetic effect is generally very good, but the bacillus continues to be found.

During June, 1909, 124 cases of leprosy were transferred to Culion as this department of the hospital was becoming too crowded. Almost every day patients are entering this department at present, as the country around Manila is being cleared of lepers as rapidly as possible.

* * * The so-called "Towne" treatment was tried very carefully (opium department) in a couple of cases, but the result was neither better nor worse than the usual treatment used here.

[Smallpox department:] There has never been a fatal case of smallpox, with a history of a successful vaccination, in this hospital.

Cases of measles, whooping cough, diphtheria, tetanus, mumps, scabies, scarlet fever, and meningitis have been received from time to time, which will be seen tabulated in the Appendix.

One case of apparently genuine scarlet fever was admitted—said to be the first case in the Islands.

The hospital grounds are improving in appearance, new trees and plants having been set out, a tennis court built, and new walks laid. There are now several acres of land under cultivation, almost all kinds of vegetables being raised, and it is expected that in August if everything goes well the purchase of fresh vegetables for this hospital can be discontinued; this will mean a saving of at least ₱5 per day.

With the enlarging of our flock of hens it is hoped that sometime within the year the purchase of fresh eggs will also become unnecessary.

The ground in front of the hospital, between the wall and the street, has been brought under the control of this division; it has already been cleared to some extent, and trees will be placed along the entire front, on the roadside, as soon as the ground becomes thoroughly saturated; the delayed rainy season this year prevented the trees from being already planted. * * *

A motor-cycle has been ordered, to be used on the mail route, as one pony is not able to do the work constantly.

The statistics of this Division are appended.

STATISTICAL DIVISION.

This division is occupied with the collection of sanitary statistics throughout the Philippine Islands. Provincial statistics are collected by means of a system of quarterly reports. Presidents of municipal boards of health report to their respective district health officers, who consolidate the reports into quarterly reports of health districts, in which form they are received at this office. This system has been in operation several years, but it is only within the last few months that this Bureau has ventured to publish any provincial statistics other than those pertaining to vaccination, leprosy, and insanity. The report forms are modeled after those in use in the public medical service in the

United States and have been criticised on account of their comprehensiveness; but when it is remembered that their purpose for the present is as much educational as statistical, the wisdom of continuing them becomes apparent.

After years of patient effort the service has been rewarded in several municipalities by an improvement in accuracy and preparation that produces reports which would be a credit to any city of the United States. In their entirety, the provincial statistics of this Bureau are still far from perfection, but each year shows marked improvement.

The Manila statistics, with the exception of those relating to births, are as accurate as it is possible to make them under the present conditions, and may be safely employed for deductive conclusions and comparisons.

SUMMARY OF THE YEAR'S WORK.

The course which the Bureau of Health has been attempting to follow in improving the hygiene and sanitation of the Islands through improved water supplies, vaccination, isolation of lepers, elimination of intestinal parasites, systematic warfare against tubercle bacilli, the eradication of malarial mosquitoes, and better hygiene for infants, has been most difficult to follow on account of the many byways which must be entered to combat diseases like cholera and dysentery, outbreaks of smallpox among persons who fail to be vaccinated, enforcement of municipal cleanliness, and many other things, too numerous to mention, but, nevertheless, the main course is always resumed as soon as conditions permit, and it is satisfactory to record that in spite of the interruptions, considerable progress was made.

The incidence of leprosy has dropped from one leper among every 2,000 inhabitants to one among every 2,800.

The Bureau of Public Works opened 40 artesian wells and the provinces as many more.

There were vaccinated during the year 1,817,872 persons, and in those provinces in which the work was done in a proper systematic manner the deaths from smallpox are becoming less and less frequent. In Oriental Negros, for instance, the number dropped from 127 to 2.

Two hospitals with a total capacity of 420 were opened.

Aided by public sentiment, some progress was made in permanent improvements by the movement for proper housing of the masses in Manila, and over 3,000 persons were actually transferred to sanitary sites.

The hookworm campaign is well under way, and several thousand persons have already been relieved of their intestinal parasites.

The funds to start an antituberculosis crusade have been secured.

Localized filling and draining has been done in many parts of the Islands, and there has been a lessening of mosquitoes in consequence.

A small appropriation has been made available so that the Bureau is now in a position to aid societies that have for their object the protection of infants.

In addition to the foregoing results for sanitation and hygiene along permanent lines, even more work and funds were expended upon more or less evanescent matters.

The effective manner in which cholera, especially in Manila, was prevented from assuming epidemic proportions, undoubtedly saved thousands of lives and was an excellent demonstration of what may be accomplished by modern health organization. Judging by the experience had in Manila in former times it is evident that only dozens succumbed where thousands died in the past.

Cleaner municipalities have been insisted upon and secured.

The inspection under the food and Drugs Act has prevented the introduction of many foods that contained deleterious ingredients.

Medical or surgical relief has been furnished for several hundred thousand persons.

The use of sterile water in all bottling establishments has been brought about, so that the residents of the Philippines can feel reasonably safe that these drinks will not contain harmful germs.

Many hundreds of other things have been done which make for rendering life more safe and comfortable than was the case in former times.

Respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service, Director of Health.

The Honorable the SECRETARY OF THE INTERIOR,
Manila, P. I.

APPENDIX.

STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1908, TO JUNE 30, 1909.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1909.]

Population of the city of Manila.

[Health census of 1907.]

Nationality.	Population.	Nationality.	Population.
Americans	5,199	Chinese	18,028
Filipinos	195,292	All others	1,148
Spaniards	2,903		
Other Europeans	977	Total	223,542

Births reported.[1]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	50	41	91	17.50
Filipinos	4,367	4,134	8,501	43.52
Spaniards	16	15	31	10.67
Other Europeans	11	12	23	23.54
Chinese	24	14	38	2.10
All others		1	1	.87
Total and average	4,468	4,217	8,685	38.85

[1] Registration incomplete.

Births, by districts.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	518	453	971	29	28	57	1,028
No. 2, Meisic	1,024	1,012	2,036	85	102	187	2,223
No. 4, Sampaloc	815	710	1,525	85	80	165	1,690
No. 5, Tondo	1,257	1,203	2,460	122	115	237	2,697
No. 6, Paco	520	509	1,029	13	5	18	1,047
Total	4,134	3,887	8,021	334	330	664	8,685

Births, by districts, and annual birth rate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	30,649	1,028	33.54
No. 2, Meisic	82,397	2,223	26.97
No. 4, Sampaloc	35,475	1,690	47.63
No. 5, Tondo	53,855	2,697	50.07
No. 6, Paco	21,166	1,047	49.46
Total and average	223,542	8,685	38.85

Births, by districts, according to number of children borne by mother.

Order in which the child was born.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.
First	257	13	596	20	468	11	557	18	238	7	2,116	69
Second	217	8	436	15	315	8	526	15	201	4	1,695	50
Third	146	13	345	14	228	9	455	10	172	4	1,346	50
Fourth	137		280	9	215	7	369	16	132	4	1,133	36
Fifth	96	1	198	5	153	7	225	8	108	2	780	23
Sixth	42	4	120	7	99	2	183	5	65	2	509	20
Seventh	49	2	80	5	68	3	131	5	36	1	364	16
Eighth	25		50	6	51	3	84	4	32	4	242	17
Ninth	28	1	41	5	31	1	66	3	18	2	184	12
Tenth	14	2	27	2	5	1	43	2	13	1	122	8
Eleventh	6	1	19	1	11		21		12		69	2
Twelfth	5		10	2	10	4	22		10		57	6
Thirteenth	2	2	11		7	2	9		2	1	31	5
Fourteenth	3		2		4		3		4	1	16	1
Fifteenth		1	5		3				2		10	1
Sixteenth	1		1			1	3				5	1
Seventeenth			2						2		4	
Eighteenth					1						1	
Twenty-first					1						1	
Total	1,028	48	2,223	91	1,690	59	2,697	86	1,047	33	8,685	317

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	69	13.27	Chinese	300	16.64
Filipinos	9,307	47.65	All others	14	12.24
Spaniards	35	12.05			
Other Europeans	14	14.82	Total and average	9,739	43.56

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married	1,062	Married	857
Divorced		Divorced	1
Widowers	303	Widows	580
Single	767	Single	289
Boys	3,360	Girls	2,973
Condition not stated	68	Condition not stated	27
Total	5,560		4,727
Grand total			10,287

Stillbirths, 320.

Number of deaths with medical attendance	5,639
Number of deaths without medical attendance	4,648
Total	10,287

Deaths, by age, including transients.

Age.	Number.	Age.	Number.
Under 30 days	1,043	40 years to 50 years	601
30 days to 1 year	3,557	50 years to 60 years	419
1 year to 2 years	722	60 years to 70 years	291
2 years to 5 years	798	70 years to 80 years	210
5 years to 10 years	210	80 years to 90 years	136
10 years to 15 years	96	90 years to 100 years	63
15 years to 20 years	333	Over 100 years	28
20 years to 25 years	437	Unknown	27
25 years to 30 years	490		
30 years to 40 years	826	Total	10,287

Table of infant mortality, by ages.

[Residents only.]

	Number.
Under 30 days	1,043
From 30 days to 1 year	3,557
From 1 to 5 years	1,520
Total	6,120

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1000.
No. 1, Intramuros	30,649	1,225	39.96
No. 2, Meisic	82,397	2,483	30.13
No. 4, Sampaloc	35,475	1,671	47.10
No. 5, Tondo	53,855	3,921	72.80
No. 6, Paco	21,166	987	46.63
Total and average	223,542	10,287	46.01

Comparative mortality from January 1, 1901, to June 30, 1909.

Month.	1901		1902		1903	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98
February	689	[a]36.72	706	[a]37.63	511	[a]27.23
March	885	[a]42.66	770	[a]37.06	539	[a]25.94
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21
August	702	[a]33.79	1,712	[a]82.42	862	[b]46.17
September	767	[a]38.15	1,132	[a]56.31	1,228	[b]67.97
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19
November	848	[a]42.18	1,085	[a]51.48	974	[b]53.91
December	858	[a]41.30	753	[a]36.25	894	[b]47.89
Total	9,375	38.30	14,451	59.04	9,358	40.27

[a] Death rate computed on population of 244,732 (Health Department's census).
[b] Death rate computed on population of 219,941 (Official census, 1903).

Comparative mortality from January 1, 1901, to June 30, 1909—Continued.

Month.	1904		1905		1906	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	796	[a]42.64	685	[a]36.69	737	[b]39.47
February	709	[a]40.59	608	[a]36.05	595	[b]35.28
March	751	[a]40.23	563	[a]30.15	600	[b]32.13
April	748	[a]41.40	530	[a]29.32	555	[b]30.27
May	766	[a]41.08	526	[a]28.16	600	[b]32.13
June	800	[a]44.28	593	[a]32.81	693	[b]36.72
July	866	[a]46.39	747	[a]40.00	1,451	[b]77.72
August	1,082	[a]35.28	841	[a]45.03	1,182	[b]63.31
September	1,064	[a]58.89	1,013	[a]56.06	835	[b]46.22
October	1,018	[a]54.58	850	[a]45.51	684	[b]36.64
November	957	[a]52.97	944	[a]52.24	658	[b]36.14
December	794	[a]42.58	841	[a]45.03	597	[b]31.98
Total	10,301	46.83	8,741	39.74	9,182	41.07

	1907		1908		1909	
January	632	[c]33.31	1,117	[c]58.87	720	[c]37.94
February	478	[c]27.59	733	[c]41.29	616	[c]35.94
March	464	[c]24.45	720	[c]37.94	618	[c]32.57
April	416	[c]22.65	626	[c]34.09	550	[c]29.95
May	462	[c]24.35	633	[c]33.34	544	[c]28.67
June	402	[c]21.89	678	[c]36.92	552	[c]30.06
July	515	[c]27.14	977	[c]51.49		
August	653	[c]34.41	1,148	[c]60.50		
September	768	[c]41.82	1,362	[c]74.17		
October	877	[c]46.22	991	[c]52.23		
November	725	[c]39.48	837	[c]45.58		
December	900	[c]47.43	824	[c]43.42		
Total	7,287	[c]32.59	10,646	[c]47.62		

[a] Death rate computed on population of 244,732 (Health Department's census).
[b] Death rate computed on population of 219,941 (Official census, 1903).
[c] Death rate computed on population of 223,542 (Health census, 1907).

Mortality compared with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901	2,327	42.93	2,410	43.97	2,077	37.49	2,561	46.22
1902	2,286	41.25	4,433	80.89	5,067	91.46	2,715	49.00
1903	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,982	35.64	1,848	33.72	3,468	62.59	1,934	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.42
1908	2,570	46.14	1,937	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55				

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)			2	1	60	38			101
4. Intermittent fever and malarial cachexia	1		2		54	32	14		103
4a. Malarial cachexia					5	2	1		8
5. Smallpox	4	2			84	27	1		68
6. Measles						1			1
8. Whooping cough					4	5			9
9. Diphtheria and croup					1				1
9a. Diphtheria	1			1	3	1			6
10. Influenza			1		5	7			13
12. Asiatic cholera	5	4	5	4	279	261	29		587
14. Dysentery	1	1	1		181	159	8		351
17. Leprosy			1		25	23	2		51
18. Erysipelas					3	3			6
19. Other epidemic diseases (beriberi)		1			466	412	45		924
20. Purulent infection and septicæmia	1				6	7	1		15
21. Glanders and farcy					1				1
22. Malignant pustule					1				1
26. Tuberculosis of the larynx			1		11	3			15
27. Tuberculosis of the lungs			7	4	490	472	52		1,025
28. Tuberculosis of the meninges					20	15			35
29. Abdominal tuberculosis	1				28	17			41
30. Pott's disease					1	2			3
31. Cold abscess, abscess by congestion					1		1		2
33. Tuberculosis of other organs	1				1	4			6
34. General tuberculosis					14	9	1		24
35. Scrofula					2	2			4
36. Syphilis	1				2	3	2		8
37. Gonorrhea (5 years and over)						2			2
39. Cancer and other malignant tumors of the buccal cavity					1	7			8
40. Cancer and other malignant tumors of the stomach and liver		1	1		3	6	2		13
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					3				3
42. Cancer and other malignant tumors of the female genital organs						10			10
43. Cancer and other malignant tumors of the breast					1	6			7
44. Cancer and other malignant tumors of the skin					2	1			3
45. Cancer and other malignant tumors of other organs or of organs not specified	1		2		12	5			20
46. Other tumors (tumors of the female genital organs excepted)					1	1			2
47. Acute articular rheumatism			1		6	4			11
48. Chronic rheumatism and gout					15	16			31
49. Scurvy					2	1			3
50. Diabetes		1							1
51. Exophthalmic goiter						2			2
53. Leukæmia					1		1		2
54. Anæmia chlorosis					1	4	1		6
55. Other general diseases					1				1
56. Acute and chronic alcoholism	2		1			1			4
II. Diseases of the nervous system and of the organs of special sense.									
60. Encepehalitis						1			1
61. Simple meningitis				1	253	270	1		525
62. Progressive locomotor ataxia						1	1		2
63. Other diseases of the spinal cord					7	1			8
64. Congestion and hemorrhage of the brain	1				45	52	4		102
65. Softening of the brain					1	3	8		12
66. Paralysis without specified cause					6	2			8
67. General paralysis					4	6	2		12
68. Other forms of mental alienation					7	4	1		12
69. Epilepsy						3			3
70. Convulsions (nonpuerperal, 5 years and over)						1			1
71. Convulsions (under 5 years)	1	2		1	874	726	7	8	1,619
72. Tetanus				1	101	75			177
73. Chorea						1			1
74. Other diseases of the nervous system			1						1

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					1				1
78. Acute endocarditis			1		10	13	1		25
79. Organic diseases of the heart	1		1		60	44	31		137
80. Angina pectoris					15	18	2		35
81. Diseases of the arteries (atheroma, aneurism, etc.)	1	1	2		11	14	1		30
82. Embolism and thrombosis					3				3
85. Hemorrhages						2	1		3
IV. Diseases of the respiratory system.									
88. Diseases of the larynx						1			1
90. Acute bronchitis		2	1	1	345	328	7		679
91. Chronic bronchitis			1		189	194	19	1	404
92. Broncho-pneumonia	2				45	31	1		79
93. Pneumonia		1			17	14	1		33
94. Pleurisy					4	2			6
95. Congestion and apoplexy of the lungs					9	8			17
96. Gangrene of the lungs					1				1
97. Asthma					8	9	4		21
98. Pulmonary emphysema					1	1			2
99. Other diseases of the respiratory system (phthisis excepted)					2	1			3
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1	1			2
101. Diseases of the pharynx					1	2			3
102. Diseases of the esophagus					1		1		2
103. Ulcer of the stomach					2	2			4
104. Other diseases of the stomach (cancer excepted)		1			11	7	1		20
105. Diarrhea and enteritis (under 2 years)	2	3	2		134	100	1		242
105a. Chronic diarrhea and enteritis (under 2 years)					103	112	1		216
106. Diarrhea and enteritis (2 years and over)	1	1		1	160	155			318
107. Intestinal parasites					3	3			6
108. Hernias and intestinal obstructions	1				9	5	1	1	17
109. Other diseases of the intestines					2				2
110. Acute yellow atrophy of the liver					3	2	1		6
112. Cirrhosis of the liver	1				9	2	2		14
113. Biliary calculi					3	2			5
114. Other diseases of the liver			4		8	6	2		20
116. Simple peritonitis (nonpuerperal)		1		1	5	6	1		14
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					2				2
118. Appendicitis and abscess of the iliac fossa	1				6	3			10
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					16	14			30
120. Bright's disease	1			1	45	57	4		108
122. Calculi of the urinary tract			1		4				5
123. Diseases of the bladder					3	2			5
124. Diseases of the urethra, urinary abscess, etc.					1				1
127. Metritis						3			3
128. Uterine hemorrhage (nonpuerperal)						2			2
129. Uterine tumor (noncancerous)						2			2
130. Other diseases of the uterus						1			1
131. Cysts and other tumors of the ovary						1			1
132. Other diseases of the female genital organs		1				3			4
133. Nonpuerperal diseases of the breast (cancer excepted)						1			1
VII. The puerperal state.									
134. Accidents of pregnancy		1				4			5
135. Puerperal hemorrhage						37			37
136. Other accidents of labor						1			1
137. Puerperal septicæmia						48		1	49
138. Puerperal albuminuria and convulsions						16			19
140. Other puerperal accidents—sudden death						2			2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene	1				1	3			5
143. Furuncle					3				3
144. Acute abscess, phlegmon					1	2			3
145. Other diseases of the skin and its adnexa					1	1			2
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones	1	1	1		6	4			13
X. Malformations.									
150. Congenital malformations (stillbirths excluded)	1		1		3				5
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	2	1	1		321	274	3	1	603
152. Other diseases peculiar to early infancy					13	9			22
153. Lack of care		1			24	20			45
XII. Old age.									
154. Senile debility			2		76	156			234
XIII. External causes.									
156. Suicide by asphyxia					1				1
159. Suicide by firearms	1								1
164. Fractures					6				6
166. Other accidental traumatisms	1				22	2	8		33
167. Burns and scalds					1	4	1		6
171. Electric shock	1								1
172. Accidental drowning			2		16	2	6		26
173. Inanition (starvation)		1			1	3		1	6
175. Other acute poisonings	1								1
176. Other external violence					1				1
XIV. Ill-defined diseases.									
177. Dropsy					1	1			2
178. Sudden death						2			2
179. Causes of death unspecified or ill defined					27	12	1		40
Total	41	28	46	17	4,818	4,489	287	13	9,739
Grand total	69		63		9,307		300		9,739

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)			2		7	1	1		11
4. Intermittent fever and malarial cachexia					4	2			6
4a. Malarial cachexia					3				3
5. Smallpox					3				3
10. Influenza					1				1
12. Asiatic cholera	1		2		42	13	4		62
14. Dysentery	1	2	1		9	6			19
17. Leprosy					3				3
19. Other epidemic diseases (beriberi)					27	10			37
20. Purulent infection and septicæmia					1				1
26. Tuberculosis of the larynx					1				1
27. Tuberculosis of the lungs			2		75	16	2		95
28. Tuberculosis of the meninges			1		3				4
29. Abdominal tuberculosis					4	1			5
34. General tuberculosis					5				5
36. Syphilis			1			1			2
39. Cancer and other malignant tumors of the buccal cavity					1	1			2
40. Cancer and other malignant tumors of the stomach and liver	1		1		2	2			6
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					1	1			2
42. Cancer and other malignant tumors of the female genital organs						1			1
43. Cancer and other malignant tumors of the breast						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified			1		1	1			3
47. Acute articular rheumatism			1						1
48. Chronic rheumatism and gout		1							1
54. Anæmia chlorosis					2				2
56. Acute and chronic alcoholism			1						1
II. Diseases of the nervous system and of the organs of special sense.									
61. Simple meningitis	1			1	10	8	1		21
64. Congestion and hemorrhage of the brain	1		1		2	3	1		8
66. Paralysis without specified cause						1			1
68. Other forms of mental alienation					1				1
71. Convulsions (under 5 years)					15	24			39
72. Tetanus						1			1
III. Diseases of the circulatory system.									
77. Pericarditis					1				1
78. Acute endocarditis					1				1
79. Organic diseases of the heart	3		2		9	4			18
80. Angina pectoris					1	2			3
81. Diseases of the arteries (atheroma, aneurism, etc.)			1						1
IV. Diseases of the respiratory system.									
90. Acute bronchitis				1	14	18			33
91. Chronic bronchitis			1		5	8			14
92. Broncho-pneumonia					4	4			8
93. Pneumonia					3	1	1		5
94. Pleurisy					1				1
96. Gangrene of the lungs					1				1
97. Asthma			1						1
V. Diseases of the digestive system.									
103. Ulcer of the stomach		1							1
104. Other diseases of the stomach (cancer excepted)						1			1
105. Diarrhea and enteritis (under 2 years)						5			5
105a. Chronic diarrhea and enteritis (under 2 years					5	5			10
106. Diarrhea and enteritis (2 years and over)					6	8			14
108. Hernias and intestinal obstructions					2				2

Number of deaths, with causes, occurring among transients in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
110. Acute yellow atrophy of the liver					1				1
112. Cirrhosis of the liver			2		4	2			8
114. Other diseases of the liver	1		1						2
116. Simple peritonitis (nonpuerperal)					2	1	1		4
118. Appendicitis and abscess of the iliac fossa					1				1
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis		1			4	1	1		7
120. Bright's disease	1				3				4
121. Other diseases of the kidneys and their adnexa					3				3
122. Calculi of the urinary tract					1				1
124. Diseases of the urethra, urinary abscess, etc					1				1
131. Cysts and other tumors of the ovary						2			2
VII. The puerperal state.									
134. Accidents of pregnancy						1			1
137. Puerperal septicæmia						2			2
140. Other puerperal accidents—sudden death						2			2
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones					1				1
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)						1			1
148. Amputation					1				1
XI. Early infancy.									
151. Congenital debility icterus and sclerema		1			1				2
153. Lack of care					1	2			3
XII. Old age.									
154. Senile debility					2	4			6
XIII. External causes.									
157. Suicide by hanging or strangulation					1				1
159. Suicide by firearms	1								1
160. Suicide by cutting instruments					1				1
164. Fractures					3				3
166. Other accidental traumatisms					3				3
167. Burns and scalds						1			1
172. Accidental drowning			2						2
173. Inanition (starvation)						1			1
176. Other external violence					7				7
XIV. Ill-defined diseases.									
179. Causes of death unspecified or ill defined					3	3			6
Total	11	6	24	2	320	173	12		548
Grand total	17		26		493		12		548

STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1908, TO JUNE 30, 1909.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1909.]

Population of the city of Manila.

[Health census of 1907.]

Nationality.	Population.	Nationality.	Population.
Americans	5,199	Chinese	18,028
Filipinos	195,292	All others	1,148
Spaniards	2,903		
Other Europeans	977	Total	223,542

Births reported.[1]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	50	41	91	17.50
Filipinos	4,367	4,134	8,501	43.52
Spaniards	16	15	31	10.67
Other Europeans	11	12	23	23.54
Chinese	24	14	38	2.10
All others		1	1	.87
Total and average	4,468	4,217	8,685	38.85

[1] Registration incomplete.

Births, by districts.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	518	453	971	29	28	57	1,028
No. 2, Meisic	1,024	1,012	2,036	85	102	187	2,223
No. 4, Sampaloc	815	710	1,525	85	80	165	1,690
No. 5, Tondo	1,257	1,203	2,460	122	115	237	2,697
No. 6, Paco	520	509	1,029	13	5	18	1,047
Total	4,134	3,887	8,021	334	330	664	8,685

Births, by districts, and annual birth rate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	30,649	1,028	33.54
No. 2, Meisic	82,397	2,223	26.97
No. 4, Sampaloc	35,475	1,690	47.63
No. 5, Tondo	53,855	2,697	50.07
No. 6, Paco	21,166	1,047	49.46
Total and average	223,542	8,685	38.85

Births, by districts, according to number of children borne by mother.

Order in which the child was born.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.
First	257	13	596	20	468	11	557	18	288	7	2,116	69
Second	217	8	436	15	315	8	526	15	201	4	1,695	50
Third	146	13	345	14	228	9	455	10	172	4	1,346	50
Fourth	137		280	9	215	7	369	16	132	4	1,133	36
Fifth	96	1	198	5	153	7	225	8	108	2	780	23
Sixth	42	4	120	7	99	2	183	5	65	2	509	20
Seventh	49	2	80	5	68	3	131	5	36	1	364	16
Eighth	25		50	6	51	3	84	4	32	4	242	17
Ninth	28	1	41	5	31	1	66	3	18	2	184	12
Tenth	14	2	27	2	15	1	43	2	13	1	122	8
Eleventh	6	1	19	1	11		21		12		69	2
Twelfth	5		10	2	10	4	22		10		57	6
Thirteenth	2	2	11		7	2	9		2	1	31	5
Fourteenth	3		2		4		3		4	1	16	1
Fifteenth		1	5		3				2		10	1
Sixteenth	1		1			1	3				5	1
Seventeenth			2						2		4	
Eighteenth					1						1	
Twenty-first					1						1	
Total	1,028	48	2,223	91	1,690	59	2,697	86	1,047	33	8,685	317

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	69	13.27	Chinese	300	16.64
Filipinos	9,307	47.65	All others	14	12.24
Spaniards	35	12.05			
Other Europeans	14	14.32	Total and average	9,739	43.56

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married	1,062	Married	857
Divorced		Divorced	1
Widowers	303	Widows	580
Single	767	Single	289
Boys	3,360	Girls	2,973
Condition not stated	68	Condition not stated	27
Total	5,560		4,727
Grand total			10,287

Stillbirths, 320.

Number of deaths with medical attendance	5,639
Number of deaths without medical attendance	4,648
Total	10,287

Deaths, by age, including transients.

Age.	Number.	Age.	Number.
Under 30 days	1,043	40 years to 50 years	601
30 days to 1 year	3,557	50 years to 60 years	419
1 year to 2 years	722	60 years to 70 years	291
2 years to 5 years	798	70 years to 80 years	210
5 years to 10 years	210	80 years to 90 years	136
10 years to 15 years	96	90 years to 100 years	63
15 years to 20 years	333	Over 100 years	28
20 years to 25 years	437	Unknown	27
25 years to 30 years	490		
30 years to 40 years	826	Total	10,287

Table of infant mortality, by ages.

[Residents only.]

	Number.
Under 30 days	1,043
From 30 days to 1 year	3,557
From 1 to 5 years	1,520
Total	6,120

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1000.
No. 1, Intramuros	30,649	1,225	39.96
No. 2, Meisic	82,397	2,483	30.13
No. 4, Sampaloc	35,475	1,671	47.10
No. 5, Tondo	53,855	3,921	72.80
No. 6, Paco	21,166	987	46.63
Total and average	223,542	10,287	46.01

Comparative mortality from January 1, 1901, to June 30, 1909.

Month.	1901		1902		1903	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98
February	689	[a]36.72	706	[a]37.63	511	[a]27.23
March	885	[a]42.66	770	[a]37.06	539	[a]25.94
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21
August	702	[a]33.79	1,712	[a]82.42	862	[b]46.17
September	767	[a]38.15	1,182	[a]56.31	1,228	[b]67.97
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19
November	848	[a]42.18	1,035	[a]51.48	974	[b]53.91
December	858	[a]41.30	753	[a]36.25	894	[b]47.89
Total	9,375	38.30	14,451	59.04	9,358	40.27

[a] Death rate computed on population of 244,732 (Health Department's census).
[b] Death rate computed on population of 219,941 (Official census, 1903).

Comparative mortality from January 1, 1901, to June 30, 1909—Continued.

Month.	1904		1905		1906	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	796	[a]42.64	685	[a]36.69	737	[b]39.47
February	709	[a]40.59	608	[a]36.05	595	[b]35.28
March	751	[a]40.28	563	[a]30.15	600	[b]32.13
April	748	[a]41.40	580	[a]29.82	555	[b]30.27
May	766	[a]41.08	526	[a]28.16	600	[b]32.13
June	800	[a]44.28	598	[a]32.81	693	[b]36.72
July	866	[a]46.39	747	[a]40.00	1,451	[b]77.72
August	1,082	[a]35.28	841	[a]45.03	1,182	[b]63.31
September	1,064	[a]58.89	1,013	[a]56.06	835	[b]46.22
October	1,018	[a]54.58	850	[a]45.51	684	[b]36.64
November	957	[a]52.97	944	[a]52.24	658	[b]36.14
December	794	[a]42.58	841	[a]45.03	597	[b]31.98
Total	10,301	46.88	8,741	39.74	9,182	41.07

	1907		1908		1909	
January	682	[c]33.31	1,117	[c]58.87	720	[c]37.94
February	478	[c]27.59	788	[c]41.29	616	[c]35.94
March	464	[c]24.45	720	[c]37.94	618	[c]32.57
April	416	[c]22.65	626	[c]34.09	550	[c]29.95
May	462	[c]24.35	633	[c]33.34	544	[c]28.67
June	402	[c]21.89	678	[c]36.92	552	[c]30.06
July	515	[c]27.14	977	[c]51.49		
August	658	[c]34.41	1,148	[c]60.50		
September	768	[c]41.82	1,362	[c]74.17		
October	877	[c]46.22	991	[c]52.23		
November	725	[c]39.48	837	[c]45.58		
December	900	[c]47.43	824	[c]43.42		
Total	7,287	[c]32.59	10,646	[c]47.62		

[a] Death rate computed on population of 244,732 (Health Department's census).
[b] Death rate computed on population of 219,941 (Official census, 1903).
[c] Death rate computed on population of 223,542 (Health census, 1907).

Mortality compared with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901	2,327	42.93	2,410	43.97	2,077	37.49	2,561	46.22
1902	2,236	41.25	4,433	80.89	5,067	91.46	2,715	49.00
1903	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,932	35.64	1,848	33.72	3,468	62.59	1,984	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.42
1908	2,570	46.14	1,987	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	[illegible]29.55				

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)			2	1	60	38			101
4. Intermittent fever and malarial cachexia	1		2		54	32	14		103
4a. Malarial cachexia					5	2	1		8
5. Smallpox	4	2			34	27	1		68
6. Measles						1			1
8. Whooping cough					4	5			9
9. Diphtheria and croup					1				1
9a. Diphtheria	1			1	3	1			6
10. Influenza			1		5	7			13
12. Asiatic cholera	5	4	5	4	279	261	29		587
14. Dysentery	1	1	1		181	159	8		351
17. Leprosy			1		25	23	2		51
18. Erysipelas					3	3			6
19. Other epidemic diseases (beriberi)		1			466	412	45		924
20. Purulent infection and septicæmia	1				6	7	1		15
21. Glanders and farcy					1				1
22. Malignant pustule					1				1
26. Tuberculosis of the larynx			1		11	3			15
27. Tuberculosis of the lungs			7	4	490	472	52		1,025
28. Tuberculosis of the meninges					20	15			35
29. Abdominal tuberculosis	1				23	17			41
30. Pott's disease					1	2			3
31. Cold abscess, abscess by congestion					1		1		2
33. Tuberculosis of other organs	1				1	4			6
34. General tuberculosis					14	9	1		24
35. Scrofula					2	2			4
36. Syphilis	1				2	3	2		8
37. Gonorrhea (5 years and over)						2			2
39. Cancer and other malignant tumors of the buccal cavity					1	7			8
40. Cancer and other malignant tumors of the stomach and liver		1	1		3	6	2		13
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					3				3
42. Cancer and other malignant tumors of the female genital organs						10			10
43. Cancer and other malignant tumors of the breast					1	6			7
44. Cancer and other malignant tumors of the skin					2	1			3
45. Cancer and other malignant tumors of other organs or of organs not specified	1		2		12	5			20
46. Other tumors (tumors of the female genital organs excepted)					1	1			2
47. Acute articular rheumatism			1		6	4			11
48. Chronic rheumatism and gout					15	16			31
49. Scurvy					2	1			3
50. Diabetes		1							1
51. Exophthalmic goiter						2			2
53. Leukæmia					1		1		2
54. Anæmia chlorosis					1	4	1		6
55. Other general diseases					1				1
56. Acute and chronic alcoholism	2		1			1			4
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis						1			1
61. Simple meningitis				1	253	270	1		525
62. Progressive locomotor ataxia						1	1		2
63. Other diseases of the spinal cord					7	1			8
64. Congestion and hemorrhage of the brain	1				45	52	4		102
65. Softening of the brain					1	3	8		12
66. Paralysis without specified cause					6	2			8
67. General paralysis					4	6	2		12
68. Other forms of mental alienation					7	4	1		12
69. Epilepsy						3			3
70. Convulsions (nonpuerperal, 5 years and over)						1			1
71. Convulsions (under 5 years)	1	2		1	874	726	7	8	1,619
72. Tetanus				1	101	75			177
73. Chorea						1			1
74. Other diseases of the nervous system			1						1

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					1				1
78. Acute endocarditis			1		10	13	1		25
79. Organic diseases of the heart	1		1		60	44	31		137
80. Angina pectoris					15	18	2		35
81. Diseases of the arteries (atheroma, aneurism, etc.)	1	1	2		11	14	1		30
82. Embolism and thrombosis					3				3
85. Hemorrhages						2	1		3
IV. Diseases of the respiratory system.									
88. Diseases of the larynx						1			1
90. Acute bronchitis		2	1	1	345	323	7		679
91. Chronic bronchitis			1		189	194	19	1	404
92. Broncho-pneumonia	2				45	31	1		79
93. Pneumonia		1			17	14	1		33
94. Pleurisy					4	2			6
95. Congestion and apoplexy of the lungs					9	8			17
96. Gangrene of the lungs					1				1
97. Asthma					8	9	4		21
98. Pulmonary emphysema					1	1			2
99. Other diseases of the respiratory system (phthisis excepted)					2	1			3
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1	1			2
101. Diseases of the pharynx					1	2			3
102. Diseases of the esophagus					1		1		2
103. Ulcer of the stomach					2	2			4
104. Other diseases of the stomach (cancer excepted)		1			11	7	1		20
105. Diarrhea and enteritis (under 2 years)	2	3	2		134	100	1		242
105a. Chronic diarrhea and enteritis (under 2 years)					103	112	1		216
106. Diarrhea and enteritis (2 years and over)	1	1		1	160	155			318
107. Intestinal parasites					3	3			6
108. Hernias and intestinal obstructions	1				9	5	1	1	17
109. Other diseases of the intestines					2				2
110. Acute yellow atrophy of the liver					3	2	1		6
112. Cirrhosis of the liver	1				9	2	2		14
113. Biliary calculi					3	2			5
114. Other diseases of the liver			4		8	6	2		20
116. Simple peritonitis (nonpuerperal)		1		1	5	6	1		14
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					2				2
118. Appendicitis and abscess of the iliac fossa	1				6	3			10
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					16	14			30
120. Bright's disease	1			1	45	57	4		108
122. Calculi of the urinary tract			1		4				5
123. Diseases of the bladder					3	2			5
124. Diseases of the urethra, urinary abscess, etc.					1				1
127. Metritis						3			3
128. Uterine hemorrhage (nonpuerperal)						2			2
129. Uterine tumor (noncancerous)						2			2
130. Other diseases of the uterus						1			1
131. Cysts and other tumors of the ovary						1			1
132. Other diseases of the female genital organs		1				3			4
133. Nonpuerperal diseases of the breast (cancer excepted)						1			1
VII. The puerperal state.									
134. Accidents of pregnancy		1				4			5
135. Puerperal hemorrhage						37			37
136. Other accidents of labor						1			1
137. Puerperal septicæmia						48		1	49
138. Puerperal albuminuria and convulsions						16			19
140. Other puerperal accidents—sudden death						2			2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene	1				1	3			5
143. Furuncle					3				3
144. Acute abscess, phlegmon					1	2			3
145. Other diseases of the skin and its adnexa					1	1			2
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones	1	1	1		6	4			13
X. Malformations.									
150. Congenital malformations (stillbirths excluded)	1		1		3				5
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	2	1	1		321	274	3	1	603
152. Other diseases peculiar to early infancy					13	9			22
153. Lack of care		1			24	20			45
XII. Old age.									
154. Senile debility			2		76	156			234
XIII. External causes.									
156. Suicide by asphyxia					1				1
159. Suicide by firearms	1								1
164. Fractures					6				6
166. Other accidental traumatisms	1				22	2	8		33
167. Burns and scalds					1	4	1		6
171. Electric shock	1								1
172. Accidental drowning			2		16	2	6		26
173. Inanition (starvation)		1			1	3		1	6
175. Other acute poisonings	1								1
176. Other external violence					1				1
XIV. Ill-defined diseases.									
177. Dropsy					1	1			2
178. Sudden death						2			2
179. Causes of death unspecified or ill defined					27	12	1		40
Total	41	28	46	17	4,818	4,489	287	13	9,739
Grand total	69		63		9,307		300		9,739

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis		1			1	2							1	1								1					2		1		
120. Bright's disease					1	2							4	5							1	1	2				4	1	2		
121. Other diseases of the kidneys and their adnexa																											2					
122. Calculi of the urinary tract					1																											
123. Diseases of the bladder																						1										
124. Diseases of the urethra, urinary abscess, etc																					1											
127. Metritis														1								1										
128. Uterine hemorrhage (nonpuerperal)														1																		
129. Uterine tumor (noncancerous)														1														1				
131. Cysts and other tumors of the ovary						1																										
132. Other diseases of the female genital organs						1								1																		
133. Nonpuerperal diseases of the breast (cancer excepted)														1																		
VII. The puerperal state.																																
134. Accidents of pregnancy						1				1				1																		
135. Puerperal hemorrhage						11								4																		
137. Puerperal septicæmia						8		1						5																		
138. Puerperal albuminuria and convulsions						3								2																		
VIII. Diseases of the skin and cellular tissue.																																
143. Furuncle					1																											
144. Acute abscess, phlegmon																														1		
IX. Diseases of the organs of locomotion.																																
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)														1																		

| | | |

Number of deaths by nationality, sex, and age.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdomial typhus)														1							8	9							3	4		
4. Intermittent fever and malarial cachexia																					4	3								1		
4a. Malarial cachexia																					1											
5. Smallpox										1			8	3			1	1			13	17							3	4	1	
6. Measles																														1		
8. Whooping cough													4	2								3										
9. Diphtheria and croup													1																			
9a. Diphtheria																	1			1	2	1							1			
10. Influenza						1								1								1										
12. Asiatic cholera										1			3	6			2			1	62	52				1			20	13		
14. Dysentery													13	9				1			90	85							34	18		
18. Erysipelas					1	1							2	1																		
19. Other epidemic diseases (beriberi)					25	10				1			804	256							25	9							7	2		
20. Purulent infection and septicæmia						1			1				1								1	1										
26. Tuberculosis of the larynx																													1			
27. Tuberculosis of the lungs													1	2							14	8							8	7		
28. Tuberculosis of the meninges													8	4							10	10										
29. Abdominal tuberculosis																					8	6							2			
33. Tuberculosis of other organs																													1	2		
34. General tuberculosis													1								2	2							2	1		
35. Scrofula																					2	2										
36. Syphilis														1																		
47. Acute articular rheumatism																		1											1			
48. Chronic rheumatism and gout										1																				1		
49. Scurvy																					1	1										
53. Leukæmia																													1			
55. Other general diseases																					1											
II. Diseases of the nervous system and the organs of special sense.																																
61. Simple meningitis					2	2							142	141	1		1			1	101	122							10	7		
63. Other diseases of the spinal cord																					1											
64. Congestion and hemorrhage of the brain														1								1							1	1		

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
VIII. Diseases of the skin and cellular tissue.																																
142. Gangrene																	1					1						1				
143. Furuncle																					1											
144. Acute abscess, phlegmon													1									1										
145. Other diseases of the skin and its adnexa													1	1																		
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones										1	1		4	2							3	1						1				
X. Malformations.																																
150. Congential malformations (stillbirths excepted)			1		2								1				1															
XI. Early infancy.																																
151. Congenital debility, icterus and sclerema	2	1	1		263	224	3	1		1			59	50																		
152. Other diseases peculiar to early infancy					13	9																										
153. Lack of care					3	3				1			20	16							2	3										
XIII. External causes.																																
166. Other accidental traumatisms																					1							1				
167. Burns and scalds																						1								1		
172. Accidental drowning																												4				
173. Inanition (starvation)						3		1		1			1									1										
XIV. Ill-defined diseases.																																
178. Sudden death																						1										
179. Causes of death unspecified or ill defined						1							8	2							4	4						1				
Total	2	1	2	2	589	440	3	4	5	14	4	2	1,869	1,644	13	6	8	5	1	3	740	759	4			2		1	118	88	1	
Grand total	8		4		1,029		7		19		6		3,513		19		13		4		1,499		4		2		1		206		1	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdomical typhus)					10	7						1	18	5					1		6	5					1		8	2		
4. Intermittent fever and malarial cachexia					1	3							12	4							6	7	1				1		4	4	4	
4a. Malarial cachexia					1								1								1											
5. Smallpox					1								5	1							6	2			1				1			
10. Influenza													1								1	1								1		
12. Asiatic cholera					5	6				1			43	28					1		39	32	1		2	1	3	2	31	29	4	
14. Dysentery					4	7							5	3							7	10					1		5	4		
17. Leprosy					2	2							2	1							6	6							6	3		
19. Other epidemic diseases (beriberi)					2	3							24	10	2						15	16	3						12	43	2	
20. Purulent infection and septicæmia														1	1						1	1								2		
22. Malignant pustule																					1											
26. Tuberculosis of the larynx					1																2	1										
27. Tuberculosis of the lungs					11	2						1	37	28							74	67	4						90	74	8	
28. Tuberculosis of the meninges					1								2																	1		
29. Abdominal tuberculosis						2							2								2	2							1	1		
30. Pott's disease						1								1																		
31. Cold abscess and abscess by congestion																													1			
33. Tuberculosis of other organs																									1					1		
34. General tuberculosis													1								2	1	1						3	2		
36. Syphilis													1									1								1		
37. Gonorrhea (5 years and over)																						1								1		
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum																													1			
43. Cancer and other malignant tumors of the breast														1																1		
45. Cancer and other malignant tumors of other organs or of organs not specified														1													1			1		
46. Other tumors (tumors of the female genital organs excepted)																													1			
47. Acute articular rheumatism													1	1							3	1							1	1		
48. Chronic rheumatism and gout																													2			
51. Exophthalmic goiter						1																										
54. Anæmia, chlorosis													1		1						1	2								1		
56. Acute and chronic alcoholism														1																		

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis						1																										
61. Simple meningitis					2								2	1							1									2	1	
63. Other diseases of the spinal cord													3																			
64. Congestion and hemorrhage of the brain																					1								1	6		
67. General paralysis																						1							1			
68. Other forms of mental alienation																					2								3	1		
72. Tetanus					1	1							3	1							1								1	1		
73. Chorea																						1										
III. Diseases of the circulatory system.																																
78. Acute endocarditis						1								1							1	1							3	1		
79. Organic diseases of the heart						1	1						6								4	4	1						4	3	1	
80. Angina pectoris													1	2							2								1	4		
81. Diseases of the arteries, atheroma, aneurism, etc																															1	
85. Hemorrhages																						1										
IV. Diseases of the respiratory system.																																
90. Acute bronchitis															1																	
91. Chronic bronchitis													1																	1		
92. Broncho-pneumonia					2								1	1							3	1							1			
93. Pneumonia													2	1							1	2							3	2		
94. Pleurisy													1								1								1			
95. Congestion and apoplexy of the lungs													1																1			
96. Gangrene of the lungs																					1											
97. Asthma														1								2								1	1	
99. Other diseases of the respiratory system (phthisis excepted)																					1											
V. Diseases of the digestive system.																																
100. Diseases of the mouth and its adnexa					1																											
101. Diseases of the pharynx													1																			
103. Ulcer of the stomach																														1		
104. Other diseases of the stomach (cancer excepted)																														1		
106. Diarrhea and enteritis (2 years and over)					2																1	1							1	4		
108. Hernia and intestinal obstructions																	1				1	1										

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)			1		4	2	1						2	3					1		1							2				
4. Intermittent fever and malarial cachexia			1		5	2	2						5	1	4		1				6	2	2					6	3	1		
4a. Malarial cachexia					2	1									1														1			
5. Smallpox	2																															
10. Influenza													1																			
12. Asiatic cholera	1	1			22	17	5		1				25	20	10					1	17	14	6				2		18	22	4	
14. Dysentery		1			5	4	2				1		5	6	5		1	1			4	2			1			6	4	1		
17. Leprosy					2	4							2	1	1				1		1	2	1					2	1			
18. Erysipelas																						1										
19. Other epidemic diseases (beriberi)					7	24	7						14	12	10						6	9	8					10	5	7		
20. Purulent infection and septicæmia						1							1															1				
21. Glanders and farcy													1																			
26. Tuberculosis of the larynx					2	1							1	1														1				
27. Tuberculosis of the lungs			1	1	60	57	7				3	1	77	66	10				2	1	52	44	8				1	44	39	8		
28. Tuberculosis of the meninges			1																													
29. Abdominal tuberculosis					2								3	2							1				1			1	1			
31. Cold abscess and abscess by congestion							1																									
33. Tuberculosis of other organs																													1			
34. General tuberculosis					1	1							2	1							2							1				
36. Syphilis					1				1														1				1			1		
39. Cancer and other malignant tumors of the buccal cavity														1															1			
40. Cancer and other malignant tumors of the stomach and liver						1									1				1			1			1			2	1	1		
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					1									1							1							1				
42. Cancer and other malignant tumors of the female genital organs						1								1								2						2				
43. Cancer and other malignant tumors of the breast														1														1				
44. Cancer and other malignant tumors of the skin													1																			
45. Cancer and other malignant tumors of other organs or of organs not specified									1		1		5								1	1						3	1			
47. Acute articular rheumatism																			1													
48. Chronic rheumatism and gout													1								1							2	1			
51. Exophthalmic goiter																													1			
53. Leukæmia							1																									
54. Anæmia, chlorosis					1									1																		
56. Acute and chronic alcoholism	2		1								1																					

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis		1			1	2							1	1								1					2		1		
120. Bright's disease					1	2							4	5							1	1	2				4	1	2		
121. Other diseases of the kidneys and their adnexa																											2					
122. Calculi of the urinary tract					1																											
123. Diseases of the bladder																						1										
124. Diseases of the urethra, urinary abscess, etc																					1											
127. Metritis														1								1										
128. Uterine hemorrhage (nonpuerperal)														1																		
129. Uterine tumor (noncancerous)														1														1				
131. Cysts and other tumors of the ovary						1																										
132. Other diseases of the female genital organs						1								1																		
133. Nonpuerperal diseases of the breast (cancer excepted)														1																		
VII. The puerperal state.																																
134. Accidents of pregnancy						1				1				1																		
135. Puerperal hemorrhage						11								4																		
137. Puerperal septicæmia						8		1						5																		
138. Puerperal albuminuria and convulsions						3								2																		
VIII. Diseases of the skin and cellular tissue.																																
143. Furuncle					1																											
144. Acute abscess, phlegmon																														1		
IX. Diseases of the organs of locomotion.																																
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)														1																		

XIII. External causes.																															
159. Suicide by firearms	1																														
160. Suicide by cutting instruments																											1				
164. Fractures					1														1								2				
166. Other accidental traumatisms					3		2					1			1		1		1		1						1		1		
171. Electrical shocks	1																														
172. Accidental drowning					1		1							2				1									1				
176. Other external violence					1							1							1												
XIV. Ill-defined diseases.																															
179. Causes of death unspecified or ill defined					1	1														1							4	1			
Total	11	4	9	1	163	180	37	2	6	2	9	1	177	162	62		4	1	12	2	126	102	49		8	1	6		146	108	40	1
Grand total	15		10		343		39		8		10		339		62		5		14		228		49		4		6		254		41	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases.																									
1. Typhoid fever (abdominal typhus)					5	1													4	1	67	39	1		112
4. Intermittent fever and malarial cachexia					9	4											1		2		58	34	14		109
4a. Malarial cachexia					1																8	2	1		11
5. Smallpox																	4	2			37	27	1		71
6. Measles																						1			1
8. Whooping cough																					4	5			9
9. Diphtheria and croup																					1				1
9a. Diphtheria																	1			1	3	1			6
10. Influenza			1		3	2													1		6	7			14
12. Asiatic cholera					32	35	3						4				6	4	7	4	321	274	33		649
14. Dysentery					12	13											2	3	2		190	165	8		370
17. Leprosy					4	3							1						1		28	23	2		54
18. Erysipelas																					3	3			6
19. Other epidemic diseases (beriberi)					42	23	6											1			498	422	45		961
20. Purulent infection and septicæmia					1								1				1				7	7	1		16
21. Glanders and farcy																					1				1
22. Malignant pustule																					1				1
26. Tuberculosis of the larynx			1		4														1		12	3			16
27. Tuberculosis of the lungs			2		102	94	8								1				9	4	565	488	54		1,120
28. Tuberculosis of the meninges					2														1		23	15			39
29. Abdominal tuberculosis					5	4											1				27	18			46
30. Pott's disease					1																1	2			3
31. Cold abscess and abscess by congestion																					1		1		2
33. Tuberculosis of other organs																	1				1	4			6
34. General tuberculosis					2	1															19	9	1		29
35. Scrofula																					2	2			4
36. Syphilis						1											1		1		2	4	2		10
37. Gonorrhea (5 years and over)																						2			2
39. Cancer and other malignant tumors of the buccal cavity					2	6															2	8			10
40. Cancer and other malignant tumors of the stomach and liver			1		3	5			1								1	1	2		5	8	2		19
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum																					4	1			5
42. Cancer and other malignant tumors of the female genital organs						5																11			11

43. Cancer and other malignant tumors of the breast					1	3															1	7				8
44. Cancer and other malignant tumors of the skin					1	1															2	1				3
45. Cancer and other malignant tumors of other organs or of organs not specified			1		4	2											1		3		13	6				23
46. Other tumors (tumors of the female genital organs excepted)						1															1	1				2
47. Acute articular rheumatism						1													2		6	4				12
48. Chronic rheumatism and gout					9	14												1			15	16				32
49. Scurvy					1																2	1				3
50. Diabetes		1																1								1
51. Exophthalmic goiter																						2				2
53. Leukæmia																					1		1			2
54. Anæmia chlorosis																					3	4	1			8
55. Other general diseases																					1					1
56. Acute and chronic alcoholism																	2		2			1				5
II. Diseases of the nervous system and of the organs of special sense.																										
60. Encephalitis																						1				1
61. Simple meningitis				1	1	1											1			2	263	278	2			546
62. Progressive locomotor ataxia						1																1	1			2
63. Other diseases of the spinal cord					2	1															7	1				8
64. Congestion and hemorrhage of the brain	1		1		31	38											2		1		47	55	5*			110
65. Softening of the brain					1	3	2														1	3	8			12
66. Paralysis without specified cause					5	3															6	3				9
67. General paralysis					1	2															4	6	2			12
68. Other forms of mental alienation																					8	4	1			13
69. Epilepsy						1										1						3				3
70. Convulsions (nonpuerperal, 5 years and over)																						1				1
71. Convulsions (under 5 years)																	1	2		1	889	750	7	8		1,658
72. Tetanus					2	4														1	101	76				178
73. Chorea																						1				1
74. Other diseases of the nervous system			1																1							1
III. Diseases of the circulatory system.																										
77. Pericarditis					1																2					2
78. Acute endocarditis					1	4													1		11	13	1			26
79. Organic diseases of the heart	1				33	20	4										4		3		69	48	31			155
80. Angina pectoris					4	5															16	20	2			38
81. Diseases of the arteries, atheroma, aneurism, etc		1			8	14											1	1	3		11	14	1			31
82. Embolism and thrombosis					2																3					3
85. Hemorrhages																						2	1			3
IV. Diseases of the respiratory system.																										
88. Diseases of the larynx																						1				1
90. Acute bronchitis						1												2	1	2	359	341	7			712
91. Chronic bronchitis			1		36	24	12												2		194	202	19	1		418
92. Broncho-pneumonia					7	1										1	2				49	35	1			87
93. Pneumonia					5	1	1											1			20	15	2			38

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
IV. Diseases of the respiratory system.—Continued.																									
94. Pleurisy					1	1															5	2			7
95. Congestion and apoplexy of the lungs																					9	8			17
96. Gangrene of the lungs																					2				2
97. Asthma					3	4	1												1		8	9	4		22
98. Pulmonary emphysema					1	1															1	1			2
99. Other diseases of the respiratory system (phthisis excepted)																					2	1			3
V. Diseases of the digestive system.																									
100. Diseases of the mouth and its adnexa																					1	1			2
101. Diseases of the pharynx																					1	2			3
102. Diseases of the esophagus					1																1		1		2
103. Ulcer of the stomach					1	1													1		2	2			5
104. Other diseases of the stomach (cancer excepted)					3	1	1												1		11	8	1		21
105. Diarrhea and enteritis (under 2 years)																	2	3	2		134	105	1		247
105a. Chronic diarrhea and enteritis (under 2 years)																					108	117	1		226
106. Diarrhea and enteritis (2 years and over)					7	3											1	1		1	166	163			332
107. Intestinal parasites																					3	3			6
108. Hernia and intestinal obstructions					2	2	1										1				11	5	1	1	19
109. Other diseases of the intestines																					2				2
110. Acute yellow atrophy of the liver							1														4	2	1		7
112. Cirrhosis of the liver					4	1											1		2		13	4	2		22
113. Biliary calculi						1															3	2			5
114. Other diseases of the liver			1		1	4											1		5		8	6	2		22
116. Simple peritonitis (nonpuerperal)																		1		1	7	7	2		18
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1																2				2
118. Appendicitis and abscess of the iliac fossæ					2	1											1				7	3			11
VI. Diseases of the genito-urinary system and its adnexa.																									
119. Acute nephritis					2	4												1			20	15	1		37
120. Bright's disease					21	30			1								2			1	48	57	4		112

121. Other diseases of the kidneys and their adnexa					1																3				3
122. Calculi of the urinary tract			1		1													1			5				6
123. Diseases of the bladder					2																3	2			5
124. Diseases of the urethra, urinary abscess, etc					1																2				2
127. Metritis																						3			3
128. Uterine hemorrhage (nonpuerperal)																						2			2
129. Uterine tumor (noncancerous)																						2			2
130. Other diseases of the uterus																						1			1
131. Cysts and other tumors of the ovary																						3			3
132. Other diseases of the female genital organs																	1					3			4
133. Nonpuerperal diseases of the breast (cancer excepted)																						1			1
VII. The puerperal state.																									
																	1								
134. Accidents of pregnancy																						5			6
135. Puerperal hemorrhage																						37			37
136. Other accidents of labor																						1			1
137. Puerperal septicæmia																						50		1	51
138. Puerperal albuminuria and convulsions																						16			16
140. Other puerperal accidents—sudden death													1									4			4
VIII. Diseases of the skin and cellular tissue.																									
142. Gangrene						2										1					1	3			5
143. Furuncle					1																3				3
144. Acute abscess, phlegmon																					1	2			3
145. Other diseases of the skin and its adnexa																					1	1			2
IX. Diseases of the organs of locomotion.																									
146. Nontuberculous diseases of the bones																1	1	1			7	4			14
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)																						1			1
148. Amputation												1									1				1
X. Malformations.																									
150. Congenital malformations (stillbirths excepted)																1		1			3				5
XI. Early infancy.																									
151. Congenital debility, icterus and sclerema																2	2	1			322	274	3	1	605
152. Other diseases peculiar to early infancy																					13	9			22
153. Lack of care																1					25	22			48
XII. Old age.																									
154. Senile debility			2		78	160												2			78	160			240

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
XIII. External causes.																									
156. Suicide by asphyxia																					1				1
157. Suicide by hanging or strangulation																					1				1
159. Suicide by firearms																	2								2
160. Suicide by cutting instruments																					1				1
164. Fractures																					9				9
166. Other accidental traumatisms					1								1		2		1				25	2	8		36
167. Burns and scalds						1															1	5	1		7
171. Electric shocks																	1								1
172. Accidental drowning			2		3						1		2		2				4		16	2	6		28
173. Inanition (starvation)																		1			1	4		1	7
175. Other acute poisonings									1								1								1
176. Other external violence																					8				8
XIV. Ill-defined diseases.																									
177. Dropsy																					1	1			2
178. Sudden death						1																2			2
179. Causes of death unspecified or ill defined					2								3	1	1						30	15	1		46
Total	2	2	15	1	526	561	40		3		1		13	3	7		52	34	70	19	5,138	4,662	299	13	1,0287
Grand total	4		16		1,087		40		3		1		16		7		86		89		9,800		312		10,287

Deaths, by occupations.

Occupation.	Number.	
	Male.	Female.
Professional:		
Architects, artists, teachers of art, etc	6	1
Clergymen, priests, nuns, etc	9	6
Engineers and surveyors	3	------
Journalists	1	------
Lawyers	6	------
Musicians and teachers of music	14	------
Nurses and midwives	------	4
Physicians and surgeons	2	------
Teachers (schools)	7	4
Others of this class	5	------
Clerical and official:		
Bookkeepers, clerks, and copyists	115	1
Bankers, brokers, and officials of companies	7	------
Collectors, auctioneers, and agents	3	------
Stenographers and typewriters	------	------
Telegraph and telephone operators	3	------
Others of this class	6	------
Mercantile and trading:		
Apothecaries, pharmacists, etc	3	------
Commercial travelers	3	1
Merchants and dealers	78	2
Hucksters and peddlers	4	2
Shopkeepers	19	91
Others of this class	3	------
Public entertainment:		
Hotel and boarding house keepers	1	------
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	5	------
Personal service, police and military:		
Barbers and hairdressers	17	------
Janitors and sextons	14	1
Policemen, watchmen, and detectives	14	------
Soldiers, sailors, and marines	11	------
Others of this class	2	------
Laboring and servant:		
Laborers (not agricultural)	782	14
Launderers	15	229
Servants	104	42
Manufacturing and mechanical industry:		
Artificial flower and paper-box makers	------	------
Bakers and confectioners	8	------
Blacksmiths	5	------
Boot, shoe, and slipper makers	15	------
Brewers, distillers, and rectifiers	------	------
Butchers	5	2
Manufacturing and mechanical industry—Continued:		
Cabinet makers and upholsterers	2	------
Carpenters and joiners	96	------
Cigar makers and tobacco workers	33	98
Clock and watch repairers, jewelers, etc	26	2
Compositors, printers, etc	16	------
Coopers	------	------
Embroiderers	2	14
Engineers and firemen (not locomotive)	27	------
Glass blowers and glass workers	------	------
Hat and cap makers	2	------
Iron and steel workers	1	------
Leather makers	1	------
Leather workers	6	------
Machinists	5	------
Marble and stone cutters	1	------
Masons (brick and stone)	14	------
Mill and factory operatives (textiles)	1	2
Millers (flour and grist)	------	------
Milliners	------	3
Painters, glaziers, and varnishers	25	------
Plumbers, gas and steam fitters	------	------
Tailors, dressmakers, and seamstresses	35	201
Tinners and tinware makers	7	------
Others of this class	37	4
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	24	------
Draymen, drivers, and teamsters	78	------
Farmers, planters, and farm laborers	56	4
Gardeners, florists, nurserymen, etc	10	1
Livery-stable keepers and hostlers	3	------
Lumbermen and raftsmen	------	------
Miners and quarrymen	3	------
Sailors, pilots, fishermen, and oystermen	105	3
Steam railroad employees	------	------
Stock raisers, herders, and drovers	2	1
Others of this class	6	------
All other occupations	104	51
Total	1,973	784
Grand total	2,757	

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans.		Foreigners.		Filipinos.			
	Adults, male.	Children, female.	Adults, male.	Children, female.	Adults.		Children.	
					Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	12	------	38	1	1,104	1,105	415	337
No. 2, Meisic, Drs. F. Herrera and C. Reyes	27	------	8	------	466	229	162	119
No. 4, Sampaloc, Dr. F. Castañeda	------	------	------	------	651	968	686	600
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	1	------	------	------	575	347	196	147
No. 6, Paco, Dr. J. B. Cabarrus	1	2	------	------	324	361	224	254
Dr. Tee Han Kee	8	------	------	------	66	40	6	5
Total	49	2	46	1	3,196	3,045	1,699	1,462

Health districts and physicians.	Chinese.			Total.	Cured.		Deaths.		Number of visits.
	Adults.		Children, male.		Male.	Female.	Male.	Female.	
	Male.	Female.							
No. 1, Intramuros, Dr. V. Cavanna	------	------	------	3,012	812	718	36	35	8,657
No. 2, Meisic, Drs. F. Herrera and C. Reyes	33	------	------	1,044	536	284	25	13	4,196
No. 4, Sampaloc, Dr. F. Castañeda	------	------	------	2,900	235	271	63	55	3,782
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	4	------	------	1,270	314	210	35	24	2,807
No. 6, Paco, Dr. J. B. Cabarrus	2	------	------	1,188	285	296	33	45	2,905
Dr. Tee Han Kee	331	5	5	466	251	29	22	2	2,057
Total	370	5	5	9,880	2,433	1,808	214	174	24,404

Report of prescriptions filled at the municipal dispensary.

Health districts.	Americans.				Foreigners.		Filipinos.				Chinese, adults, male.	Total.
	Adults.		Children.		Adults, male.	Children, male.	Adults.		Children.			
	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.		
No. 1, Intramuros	1,251	390	3	16	46	1	4,156	2,932	975	740	1	10,510
No. 2, Meisic	37	1	------	------	17	------	995	725	406	252	10	2,443
No. 4, Sampaloc	18	------	1	1	------	2,141	1,310	1,274	668	------	5,413
No. 5, Tondo	3	------	------	------	2	------	1,161	1,027	271	230	------	2,694
No. 6, Paco	174	34	------	3	------	------	888	587	529	565	1	2,781
Total	1,483	425	3	20	66	1	9,340	6,581	3,455	2,455	12	23,841

General inspection of houses, premises, vaults, etc., with improvements ordered, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors.

1. Inspections of houses by sanitary inspectors	25,873
2. Reinspections of houses for verification of work ordered	3,526
3. Inspections of houses by assistant sanitary inspectors and sanitary policemen	520,692
4. Reinspections of houses by assistant sanitary inspectors and sanitary policemen	149,404
5. Houses ordered cleaned (written)	0
6. Houses ordered cleaned (verbal)	121,257
7. Houses cleaned	120,496
8. Houses ordered whitewashed and painted	243
9. Houses whitewashed and painted	237
11. Number of houses recommended condemned and removed	0
12. Number of houses condemned and removed	0
13. Number of localities where "squatters" are located	12
14. Number of samples of water, foods, etc., sent to laboratory	1,530
15. Number of reports for same	1,253
16. Number of fire plugs opened or closed for sanitary purposes	0
17. Number of hydrants recommended reopened	0

General inspection of houses, premises, vaults, etc., with improvements ordered, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors—Continued.

18. Number of houses where garbage has not been removed for two days	1,693
19. Number of persons reported sick to municipal physicians	10,834
20. Cesspools and vaults ordered cleaned	268
21. Cesspools cleaned	208
22. Yards ordered cleaned	69,135
23. Yards cleaned	68,107
24. Yards ordered repaired (repaved, etc.)	2
25. Yards repaired	2
26. Number of cholera cases reported by sanitary inspectors	282
27. Number of cholera cases found alive	535
28. Number of cholera cases found dead	313
29. Number of orders issued during the year	596
30. Number of orders complied with during the year	337
31. Number of orders awaiting action	52
32. Number of orders pending in court	119
33. Average number of food tiendas in the districts	2,865
34. Number of persons convicted for violation of food prohibition orders	129
35. Average number of regular inspectors on duty	35
36. Average number of regular emergency inspectors on duty	20
37. Number of leprosy cases sent to San Lazaro Hospital	85
38. Number of plague cases reported	0
39. Number of smallpox cases reported	190
40. Average number of houses in which traps were set	250
41. Average number of houses in which bane was placed	0
42. Average number of traps set	406
43. Average number of plates with ratsbane placed	5
44. Rats caught by rat catchers	74
45. Rats caught by traps	1,318
46. Rats caught by poison	36
47. Rats found dead	2
48. Average number of rat catchers employed	0
49. Number of persons vaccinated during the year	61,465

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Beriberi	140	-------	Pulmonary gangrene	1	-------
Cattle disease	5	-------	Rinderpest	20	-------
Chicken cholera	1	-------	Septicemia	1	-------
Cholera	1,165	11,624	Smallpox	155	1,261
Cholera, suspected	81	1,008	Smallpox, suspected	9	19
Diphtheria	9	52	Syphilis	2	6
Dysentery	8	11	Tetanus	25	55
Exhumations	401	-------	Tuberculosis	296	-------
Foot-and-mouth disease	91	-------	Typhoid fever	34	163
Glanders	7	-------	Undetermined	12	78
Glanders, suspected	1	-------	Varicella	9	42
Insanitary conditions	4,281	698	Varioloid	43	475
Leprosy	88	405	Vermin	4	-------
Leprosy, suspected	8	17	Whooping cough	7	-------
Lymphangitis	1	-------			
Malignant tumor	1	3	Total	6,898	15,927
Measles	2	10			

Report of operations of the pail-conservancy system.

Where cleaned.	Pail collections.				Cleaned by odorless excavators.		
	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.	Vaults cleaned.	Vaults removed.	Gallons removed.
Private houses	4,361	1,839	6,539	733,121	2,108	2,861	1,430,500
Public buildings	121	55	969	67,816	74	1,549½	774,750
Midden sheds	136	125	5,898	463,964	-------	-------	-------
Military buildings	30	7	103	26,248	16	137	68,500
Mariquina	-------	-------	-------	21,152	-------	-------	-------
Total	4,648	2,026	13,509	1,312,301	2,198	4,547½	2,273,750

Disposition of dead bodies.

Disposition.	Number.	Disposition.	Number.
Buried:		Buried—Continued.	
Norte cemetery	6,556	San Pedro Macati cemetery	5
Paco cemetery (1 fœtus)	294	Chinese cemetery	321
Santa Cruz cemetery	121	Maytubig cemetery	41
Binondo cemetery	367	Otherwise disposed of:	
Balicbalic cemetery	1,350	Embalmed for shipment to United States	15
San Marcelino cemetery	234	Transferred to provinces	40
Ermita cemetery	262	Preserved in alcohol (fœtuses)	4
Malate cemetery (1 fœtus)	418	Cremated	21
Pandacan cemetery, Roman Catholic	98	Remaining in Malecon Morgue	13
Pandacan cemetery, Filipino Church	210	Total	[a]10,642
Santa Ana cemetery	272		

[a] Of this total 12 are from the Malecon Morgue remaining from last year; 22 dead bodies brought from the provinces; 1 remains unearthed and 320 fœtuses. The 2 fœtuses appearing in parentheses were buried with their mothers.

Disinterments.

Cemeteries.	Number.	Cemeteries.	Number.
Paco	119	Malate	22
Norte	17	Balicbalic	25
Loma	4	Chinese	102
Tondo	36	Recoletos Church	1
Santa Cruz	81		
Binondo	8	Total	415

89 disinterments are not included here, requested by the Administrator of Santa Cruz cemetery on account of expiration of legal term.

Report of cremations at Palomar crematory.

Disposition.	Number.	Disposition.	Number.
Animals cremated:		Animals cremated—Continued.	
Native ponies	28	Chinese horses	1
Carabaos	37	Hogs	105
Calves	7		
Dogs	291	Total	3,271
Goats	71		
Cats	232	Refuse cremated:	
Rats	21	Garbage	136
Sheep	4	Beach refuse	7
Fowls	1,639	Trade refuse	212
Pigs	696	Organic matter	92
Australian horses	2	Market refuse	397
Cows	124	Slops	2,010
Monkeys	4	Condemned goods	303
Deer	8		
American horses	1	Total	3,157

Report of Malecon Morgue.

Disposition of dead bodies.	Number.	Disposition of dead bodies.	Number.
Remaining from last year	12	Transferred to Army Morgue	1
Received	554	Transferred to Philippine Medical School	[a]2
Total	566	Transferred to provinces	3
		Remaining in Morgue	13
Buried by family	55		
Buried by city	481	Total	566
Transferred to San Lazaro Morgue	8		

[a] 1 embryo and 1 fœtus.

Report of action taken on application for licenses.

Kind of license applied for.	Approved.	Disapproved.	Total acted upon.	Kind of license applied for.	Approved.	Disapproved.	Total acted upon.
Liquor:				Embalming	4		4
First-class bars	92		92	To sell fresh milk	3		3
Second-class bars	85		85	Tattooers	9		9
First-class bars and restaurants	40	5	45	Ice cream, sweetmeats, and soft drinks	6	3	9
First-class bars and second-class restaurants	3	1	4	Ferry boats	2		2
Second-class bars and restaurants	14		14	Dyeing	13	1	14
Wholesale	52		52	Stock yards	2		2
Groceries	87	1	88	Merry-go-rounds	2		2
Druggists	6		6	Junk shops	2		2
Theaters	15		15	Shooting gallery	2		2
Hotels	19	1	20	To conduct a dairy, also to sell fresh milk	1		1
Restaurants	713	217	930	Dance halls	28	5	33
Boarding houses	19	3	22	Bill posting and street advertising agency	2		2
Lodging houses	14	3	17	Slot machines	1		1
Distilleries	9	1	10	Pawnbrokers	2		2
Native wines	2,751	81	2,832	Theaters	7		7
Breweries	1		1	Cinematographs	1		1
Auctioneers	2		2	Aerated water	1		1
Clubs	44	2	46	Groceries	3		3
Cooked foods, fruits, bakery products, and soft drinks	2,737	220	2,957	Matches	2		2
Bakeries	8		8	Firecrackers	1		1
Manufactures	254	45	299	Master plumbing	1		1
Livery stables	57	1	58	Kerosene oil	1		1
Barber shops	435	16	451	Parade, circus	1		1
Laundries	32	3	35				
Billiard and pool tables	117	16	133	Total	7,703	625	8,328

Reports received of lepers living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	1	2				1	1	1			3
Albay	do	2		1				1				2
Ambos Camarines	do											10
Bulacan	do											15
Cagayan	do											20
Cebu	do											10
Culion	(1)	1,087	654	203	106	478	275	344	180	62	93	1,741
Ilocos Norte	Filipino											5
Ilocos Sur	do											5
Iloilo	do	8	1			2		6	1			9
Isabela	do											2
Lepanto-Bontoc	do											15
Misamis	do											2
Moro	do	143	77	3	3	86	44	45	18	9	12	220
Nueva Ecija	do	32	15	1		11	4	16	8	4	3	47
Pampanga	do											2
Rizal	do											2
Samar	do											2
Sorsogon	do		1						1			1
Tayabas	do											3
Zambales	do											2
San Lazaro Hospital	(2)	102	53	14	6	48	28	33	8	7	11	155
Total		1,375	803	222	115	625	352	446	217	82	119	2,273

[1] Filipinos, 1,736; Chinese, 3; and Europeans, 2. Total, 1,741.
[2] Filipinos, 149; Chinese, 5; and Other, 1. Total, 155.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	29	14	1	------	21	6	7	4	------	4	43
Albay	do	39	58	1	1	27	40	7	10	4	7	97
Ambos Camarines	do	88	56	3	1	61	39	11	8	8	8	139
Antique	do	34	32	------	------	21	18	10	10	3	4	66
Bataan	do	16	13	------	------	7	4	7	3	2	6	29
Batangas	do	63	58	4	------	45	39	9	8	5	11	121
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	38	32	------	------	22	17	7	9	4	6	65
Cagayan	do	17	15	------	------	12	8	3	4	2	3	32
Capiz	do	62	66	2	1	44	28	12	21	4	16	128
Cavite	do	35	37	------	------	21	21	7	11	7	5	72
Cebu	do	175	108	20	13	129	78	24	9	2	8	283
Ilocos Norte	do	69	35	------	------	49	25	16	6	4	4	104
Ilocos Sur	do	94	53	1	------	67	32	17	18	9	3	147
Iloilo	do	71	67	1	------	53	41	12	15	5	11	138
Isabela	do	9	6	------	------	4	1	5	5	------	------	15
La Laguna	do	33	31	------	------	24	14	6	5	3	12	64
Lepanto-Bontoc	do	20	21	4	1	14	10	2	7	------	3	41
Leyte	do	34	17	3	------	27	13	3	4	1	------	51
Masbate	do	19	8	------	------	14	7	4	1	1	------	27
Mindoro	do	9	7	------	------	8	4	1	2	------	1	16
Misamis	do	57	49	------	------	41	31	11	11	5	7	106
Negros Occidental	do	61	32	------	------	45	19	9	7	7	6	93
Negros Oriental	do	64	47	------	------	49	33	11	4	4	5	111
Nueva Ecija	do	22	23	------	1	18	13	3	7	1	2	45
Nueva Vizcaya	do	4	5	------	------	4	1	------	3	------	1	9
Pampanga	do	37	39	------	------	27	17	10	13	------	9	76
Pangasinan	do	114	95	2	------	60	41	34	36	18	18	209
Rizal	do	47	30	------	------	32	16	9	10	6	4	77
Romblon	do	6	------	------	------	3	------	3	------	------	------	6
Samar	do	19	8	------	1	14	8	4	3	1	1	27
Sorsogon	do	65	48	2	2	49	31	13	8	1	7	113
Surigao	do	6	3	------	------	3	2	2	------	1	1	9
Tarlac	do	15	10	1	------	6	6	7	2	1	2	25
Tayabas	do	127	114	2	5	100	74	22	21	3	14	241
Union	do	45	30	1	4	21	16	19	8	4	2	75
Zambales	do	5	8	------	------	5	5	------	------	------	3	18
San Lazaro Hospital	(1)	120	16	------	------	73	8	36	6	11	2	136
Total		2,037	1,571	59	87	1,429	978	413	344	136	212	3,608

[1] Americans, 2; Filipinos, 129; Chinese, 2; Europeans, 2; and Others, 1. Total, 136.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	42	57	3	------	12	6	6	12	21	39	99
Albay	do	77	61	6	5	46	44	21	5	4	7	138
Ambos Camarines	do	98	67	8	6	53	41	27	4	10	16	165
Antique	do	72	59	9	4	28	23	20	10	15	22	131
Bataan	do	9	8	------	------	7	7	2	------	------	1	17
Batangas	do	31	17	3	------	16	6	10	3	2	8	48
Bohol	do	211	160	37	16	109	82	47	29	18	33	371
Bulacan	do	122	82	14	6	44	35	37	17	27	24	204
Cagayan	do	51	64	3	4	15	14	18	13	15	33	115
Capiz	do	92	77	3	3	35	31	43	15	11	28	169
Cavite	do	75	52	6	3	31	20	29	16	9	13	127
Cebú	do	74	44	8	2	37	17	18	12	11	13	118
Ilocos Norte	do	78	72	3	------	21	21	27	9	27	42	150
Ilocos Sur	do	75	86	6	3	22	29	30	27	17	27	161
Iloilo	do	49	46	9	5	27	24	7	2	6	15	95
La Laguna	do	76	56	11	3	26	20	24	11	15	22	132
Lepanto-Bontoc	do	49	32	------	------	------	------	------	------	------	------	81
Leyte	do	326	195	64	22	168	95	57	29	37	49	521
Masbate	do	27	18	1	1	18	9	4	4	4	4	45
Misamis	do	54	23	7	3	33	10	9	7	5	3	77
Negros Occidental	do	105	84	7	7	50	32	20	16	28	29	189
Nueva Ecija	do	43	42	3	3	16	13	12	9	12	17	85
Pampanga	do	128	112	11	10	64	50	32	15	21	37	240
Pangasinan	do	63	51	2	6	21	16	26	13	14	16	114
Rizal	do	102	69	5	4	43	32	44	9	10	24	171
Romblon	do	22	10	5	1	9	4	6	4	2	1	32
Samar	do	133	69	------	------	67	29	32	20	34	20	202
Sorsogon	do	183	105	27	18	120	66	28	8	8	13	288
Surigao	do	1	------	------	------	------	------	1	------	------	------	1
Tarlac	do	32	26	2	1	12	11	8	4	10	10	58
Tayabas	do	37	32	6	2	18	9	8	9	5	12	69
Unión	do	34	40	5	7	13	9	8	10	8	14	74
Zambales	do	18	10	------	------	10	2	6	2	2	6	28
Total		2,589	1,926	274	145	1,191	807	667	344	408	598	4,515

Returns of vaccinations from the provinces where systematic vaccinations have been made during the fiscal year 1908–9.

[Closed July 14, 1909.]

Province.	Period.		Number of vaccinations.	Number of inspections.	Successful vaccinations.	Unsuccessful vaccinations.	Average vaccinations per 1,000 population.
	From—	To—					
Capiz	Nov. 6, 1906	May 31, 1909	370,505	202,685	117,981	90,704	1,646.01
Iloilo*	Jan. 8, 1907	June 30, 1909	767,382	492,189	314,423	180,872	1,899.78
Misamis	Jan. 11, 1909	May 31, 1909	32,330	18,233	7,523	10,712	238.64
Mountain	Feb. 1, 1909	do	23,190	Inspection not possible.			73.51
Occidental Negros	Oct. 1, 1906	do	474,593	283,288	238,838	132,550	1,562.90
Surigao	Jan. 1, 1908	Oct. 31, 1908	88,407	68,275	36,113	32,162	890.32
Total and average			1,756,407	1,064,672	714,878	457,000	1,184.42

* Report for April 1909 not received.

Amount of vaccine virus distributed by the Bureau of Health.

	Units.
Number on hand July 1, 1908	2,861
Received from the Bureau of Science	2,782,700
Found at the Stations	24,989
Total to be accounted for	2,810,550
Distributed as per itemized statement	2,792,250
Remaining on hand June 30, 1909	18,300

Places at which vaccine virus was distributed.

Provinces:	Units.
Albay	69,700
Ambos Camarines	67,300
Antique	15,700
Bataan	44,900
Batanes	2,000
Batangas	41,800
Benguet	5,800
Bulacan	28,600
Capiz	172,000
Cavite	47,700
Cebú	490,000
Cullon	9,400
Cuyo	1,500
Ilocos Norte	30,000
Ilocos Sur	24,900
Iloilo	860,000
Isabela	500
Laguna	47,300
Lepanto-Bontoc	22,000
Leyte	1,400
Marinduque	4,200
Mindoro	2,500
Misamis	40,000
Nueva Ecija	61,950
Nueva Vizcaya	7,000
Occidental Negros	15,000
Palawan	3,900
Pampanga	58,100
Pangasinan	67,500
Rizal	114,300
Romblon	500
Samar	25,000
Sorsogon	28,400
Surigao	50,600
Tarlac	37,900
Tayabas	21,300
Union	19,300
Zambales	78,900
Total	2,618,850
Manila:	
Health Districts	146,300
Other Institutions	27,100
Total	173,400
Grand total	2,792,250

Report of sera.

	Anti-pestic.	Plague prophy-lactic.	Assorted.
Bottles on hand at the beginning of the year	230	1,024	121
Received from the Bureau of Science			119
Total to be accounted for	230	1,024	240
Issued			107
Total bottles at end of the year	230	1,024	133

Smallpox and plague[a] report for Manila.

Nationality.	Smallpox.			
	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	10	4	4	2
Filipinos	130	80	37	27
Foreigners	9	8		
Chinese	2		1	
Total	151	92	42	29

[a] No cases of plague.

Smallpox and plague[a] report for Manila—Continued.

District and age.	Smallpox.	
	Cases.	Deaths.
Health districts:		
No. 1, Intramuros	64	10
No. 2, Meisic	68	15
No. 4, Sampaloc	39	19
No. 5, Tondo	55	19
No. 6, Paco	17	8
Total	243	71
Ages:		
Under 1 year	17	10
1 year to 10 years	110	40
10 years to 20 years	40	9
20 years to 30 years	46	10
30 years to 40 years	25	2
40 years to 50 years	4	----
Over 50 years	1	----
Total	243	71

[a] No cases of plague.

Number of cases found alive	223
Number of cases found dead	20

Cholera report, city of Manila.

Nationality.	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	20	9	6	4
Filipinos	488	385	321	274
Foreigners	29	13	7	4
Chinese	37	----	33	----
Total	574	407	367	282

District and age.	Cases.	Deaths.
Health districts:		
No. 1, Intramuros	163	80
No. 2, Meisic	297	208
No. 4, Sampaloc	166	102
No. 5, Tondo	276	200
No. 6, Paco	79	59
Total	981	649
Ages:		
Under 1 year	7	7
1 year to 10 years	201	156
10 years to 20 years	148	82
20 years to 30 years	277	149
30 years to 40 years	156	102
40 years to 50 years	97	77
Over 50 years	87	70
Unknown	8	6
Total	981	649

Number of cases found alive	646
Number of cases found dead	335

Cases and deaths from cholera in the city of Manila, from January 1, 1908 to January 1, 1909.

BY AGES.

Age.	Cases.	Deaths.	Mortality.
			Per cent.
Under 30 days	49	41	83.67
1 month to 2 years	125	108	86.40
2 to 5 years	71	47	66.19
5 to 10 years	39	20	51.28
10 to 15 years	135	84	62.22
15 to 20 years	185	101	54.59
20 to 25 years	162	104	64.19
25 to 30 years	90	60	66.66
30 to 35 years	103	71	68.93
35 to 40 years	53	37	69.81
40 to 45 years	62	53	85.48
45 to 50 years	19	14	73.68
50 to 55 years	41	36	87.80
55 to 60 years	12	9	75.00
60 to 65 years	14	12	85.71
65 to 70 years	8	7	87.50
70 to 75 years	6	5	83.33
75 to 80 years	3	3	100.00
80 to 85 years	1	1	100.00
85 to 90 years			
Over 90 years			
Unknown	8	6	75.00
Total	1,186	819	69.05

BY RACE.

Race.	Cases.	Deaths.	Mortality.	1 case to—	Date of last case.
			Per cent.		
Americans	37	12	32.43	140	Dec. 26, 1908
Filipinos	1,047	745	71.15	186	Dec. 26, 1908
Chinese	51	46	90.19	853	Nov. 22, 1908
Foreigners	51	16	31.37	98	Nov. 23, 1908
Total	1,186	819	69.05	188	

Cholera in the provinces.

Towns.	Cases.	Deaths.
Abra:		
Bangued	52	30
Bucay	1	1
Danglas	5	
Dolores	1	
Total	59	31
Albay:		
Camalig	32	23
Libog	1	
Libon	89	8
Oas	93	73
Polangui	81	34
Total	246	138
Ambos Camarines:		
Nabua	17	17
Antique:		
Aniny	133	28
Bugason	53	27
Dao	186	43
Pandan	1	1
Patnongon	236	101
San Jose	383	216
Sibalom	420	199
Total	1,412	615
Bataan:		
Mariveles	1	1
Olongapo	3	3
Orani	1	1
Total	5	5
Batangas:		
Bauan	7	4
Bohol:		
Calape	8	5
Dauis	14	12
Loay	9	7
Loon	336	183
Maribojoc	77	48
Panglao	15	11
Tagbilaran	46	29
Tubigon	117	88
Total	622	378

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.
Bulacan:		
Angat	1	1
Baliuag	59	39
Bigaa	1	1
Bocaue	23	15
Bulacan	76	62
Calumpit	16	10
Hagonoy	29	23
Malolos	67	44
Maycanayan	12	8
Obando	79	54
Paombong	39	26
Polo	8	4
Pulilan	40	39
Quingua	93	61
San Rafael	1	1
Santa Maria	10	9
Total	554	397
Cagayan:		
Abulug		1
Alcala	136	77
Amulung	13	13
Aparri	72	47
Baggao	26	26
Camalaniugan	89	35
Enrile	22	20
Gattaran	71	71
Iguig	24	11
Manauan	28	9
Pamplona	1	1
Peñablanca	15	9
Piad	1	1
San Antonio	4	4
Santo Niño	31	13
Solana	6	2
Tuguegarao	191	108
Total	680	443
Capiz:		
Calibo	523	300
Capiz	45	33
Dao	37	22
Dumalag	40	24
Dumarao	82	52
Ibahay	468	238
Ibisan	7	8
Jamindan	24	22
Manbusao	24	12
Navas	149	75
New Washington	57	31
Panay	68	42
Panitan	15	12
Pilar	66	44
Pontevedra	82	59
Sapian	13	11
Taft	184	101
Tapas	127	93
Total	2,006	1,179
Cavite:		
Bacoor	1	
Cavite	48	36
Imus	19	11
Kawit	49	40
Maragondon	1	1
Naic	8	6
Noveleta	30	17
Rosario	58	39
San Francisco Malabon	14	9
Total	228	159
Cebu:		
Balamban	18	13
Carcar	7	4
Cebu	6	6
Cebu—Continued.		
Daan Bantayan	8	2
Oslob	13	4
Toledo	4	2
Total	51	31
Ilocos Norte:		
Bacarra	1	1
Batac	61	28
Dingras	24	13
Laoag	272	199
Paoay	12	8
Piddig	2	2
San Miguel	16	7
San Nicolas	5	5
Total	293	263
Ilocos Sur:		
Banayoyo	37	27
Cabugao	17	10
Candon	496	423
Magsingal	2	2
Nagbuquel	35	28
Narvacan	339	249
Peñarrubia	5	1
Pilar	4	
San Esteban	3	2
Santa	123	68
Santa Catalina	34	25
Santa Cruz	190	102
Santa Lucia	242	159
Santa María	272	230
Santiago	29	21
Santo Domingo	5	3
Vigan	397	266
Total	2,230	1,611
Iloilo:		
Alimodian	72	43
Anilao	127	84
Arévalo	24	18
Bacacay	9	4
Balasan	3	1
Banate	384	208
Barotac Nuevo	385	241
Buenavista	124	74
Cabatuan	279	141
Dingle	242	126
Dumangas	711	354
Estancia	4	4
Guimbal	364	144
Iloilo	552	423
Janiuay	468	279
Jaro	365	249
Lambunao	25	13
Leganes	194	119
Leon	131	77
Lucena	98	56
Maasin	3	3
Miagao	50	26
Mina	102	33
Oton	321	167
Passi	218	106
Pavia	72	53
Pototan	636	515
San Miguel	99	69
Santa Barbara	310	206
Sara	33	16
Tigbauan	120	61
Zarraga	424	352
Total	6,949	4,210
Isabela:		
Ilagan	126	75
Tumauini	18	18
Total	144	93

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.
Laguna:		
Bifian	16	14
Cabuyao	4	4
Calamba	29	20
Lumbang	1	1
Paete	1	
Pagsanhan	1	1
Pangil	26	15
Pila	1	1
San Pedro Tunasan	34	18
Santa Cruz	17	10
Santa Rosa	36	18
Total	166	102
Leyte:		
Babatungon	17	13
Basey	4	
Burauen	1	
Carigara	12	8
Dagami	31	20
Dulag	4	1
Gandara	23	14
Naval	3	
Palo	10	8
Tacloban	100	58
Tanawan	51	30
Total	256	147
Misamis:		
Balingasag	161	65
Cagayan	816	241
Mambajao	67	41
Tagoloan	118	38
Total	1,162	385
Moro:		
Dapitan	87	62
Davao	32	14
Lasang	16	12
Madaan	12	8
Piso	4	4
Samal Island	2	2
Santa Cruz	1	
Siraoan	11	8
Zamboanga	2	2
Total	167	112
Mountain:		
Antimoc	1	1
Ambaugonan	7	7
Baguio	4	1
Bagulin	11	11
Camp-Six-and-a-half	1	
Cervantes	1	1
Pagsan	2	2
Tagudin	74	50
Tongan	2	1
Tinglayan	27	15
Twin Peaks	1	
Total	131	89
Nueva Ecija:		
Cabanatuan	3	1
Cabiao	1	
Cuyapo	317	260
Gapan	1	1
Licab	6	6
Nampicuan	1	1
San José	48	35
San Juan	9	6
Santo Domingo	4	4
Total	390	314

Towns.	Cases.	Deaths.
Occidental Negros:		
Bacolod	182	99
Bago	294	172
Binalbagan	153	106
Cabancalan	276	163
Cadiz	58	40
Cauayan	52	27
Escalante	362	189
Ilog	457	206
Isabela	227	139
Jimamayian	203	119
Jinigaran	282	187
La Carlota	483	351
Manapla	79	43
Murcia	53	14
Pontevedra	247	133
Sagay	145	91
San Carlos	89	57
Saravia	150	127
Silay	348	301
Talisay	103	75
Valladolid	420	322
Victorias	45	33
Total	4,708	2,974
Oriental Negros:		
Ayuquitan	61	43
Tayasan	16	4
Total	77	47
Pampanga:		
Angeles	4	4
Apalit	4	1
Arayat	7	5
Bacolor	49	33
Betis	44	39
Candaba	3	1
Floridablanca	1	1
Guagua	18	13
Lubao	12	11
Mabalacat	1	1
Macabebe	1	
Masantol	5	4
Mexico	4	3
Minalin	4	3
Porac	17	6
San Fernando	63	49
Santa Rita	4	4
Sexmoan	56	38
Total	297	216
Pangasinan:		
Aullar	1	1
Alaminos	1	
Alava	3	3
Alcala	177	63
Asingan	142	92
Balungao	95	54
Bautista	53	46
Bayambang	70	56
Binalonan	104	48
Bolinao	1	1
Calasiao	46	31
Camp One	2	1
Dagupan	27	25
Malasiqui	27	17
Manaoag	144	109
Mangaldan	84	54
Mangataren	20	8
Natividad	56	35
Pozorrubio	278	122
San Carlos	202	86
San Fabian	4	6
San Jacinto	29	14

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.
Pangasinan—Continued.		
San Manuel	98	61
San Nicolas	388	243
San Quintin	194	182
Santa Maria	57	39
Tayug	241	124
Umingan	40	29
Urbiztondo	199	106
Urdaneta	17	9
Total	2,800	1,665
Palawan:		
Cuyo	68	70
Rizal:		
Antipolo	4	2
Binangonan	14	11
Cainta	5	4
Caloocan	22	15
Jalajala	4	4
Las Piñas	2	2
Malabon	62	47
Mariquina	160	134
Montalban	5	2
Muntinlupa	1	1
Navotas	73	63
Parañaque	18	14
Pasay	27	26
Pasig	114	98
San Felipe Neri	4	3
San Juan del Monte	8	5
San Mateo	128	95
San Pedro Macati	6	5
Taguig	49	22
Tanay	1	1
Taytay	80	23
Total	737	577
Samar:		
Allen	3	3
Balanginga	6	6
Bobon	2	2
Calbayog	66	43
Calbiga	17	8
Catbalogan	79	36
Cauayan	28	28
Guiuan	302	280
Laoang	3	4
Santa Cruz	4	----
Santa Margarita	2	----
Tanauan	7	6

Towns.	Cases.	Deaths.
Samar—Continued.		
Villareal	22	20
Wright	4	----
Zumarraga	3	2
Total	548	438
Sorsogon:		
Dimasalang	62	48
Masbate	57	45
Milagros	8	6
Mobo	44	36
Sorsogon	4	3
Total	175	138
Surigao:		
Butuan	93	44
Hinatuan	150	150
Total	243	194
Tarlac:		
Camiling	249	197
Gerona	1	1
Moncada	93	63
Paniqui	27	19
Tarlac	1	1
Victoria	13	12
Total	384	293
Tayabas:		
Mauban	1	1
Union:		
Agoo	60	35
Aringay	17	16
Bacnotan	81	68
Balaoan	153	102
Bangar	83	49
Bawang	142	117
Camp Wallace	1	1
Luna	142	70
Nagulilian	171	144
Pidigan	1	1
Rosario	7	4
San Fernando	320	219
San Juan	71	45
Santo Tomas	29	25
Tubao	31	19
Total	1,309	915

SUMMARY BY PROVINCES.

	Cases.	Deaths.	Mortality.
			Per cent.
Abra	59	31	52.37
Albay	246	138	56.09
Ambos Camarines	17	17	100.00
Antique	1,412	615	43.55
Bataan	5	5	100.00
Batangas	7	4	57.14
Bohol	622	378	60.86
Bulacan	554	397	71.66
Cagayan	680	443	65.14
Capiz	2,006	1,179	58.77
Cavite	228	159	69.73
Cebu	51	31	60.78
Ilocos Norte	293	263	89.76
Ilocos Sur	2,230	1,611	72.24
Iloilo	6,949	4,210	60.58
Isabela	144	93	64.58
Laguna	166	102	61.44
Leyte	256	147	57.42
Misamis	1,162	385	33.03
Mountain	131	89	67.93
Moro	167	112	67.06
Nueva Ecija	390	314	80.51
Occidental Negros	4,708	2,974	63.16
Oriental Negros	77	47	61.03
Pampanga	297	216	72.72
Pangasinan	2,800	1,665	59.46
Paragua	83	70	84.33
Rizal	737	577	78.29
Samar	548	438	79.92
Sorsogon	175	138	78.85
Surigao	243	194	79.83
Tarlac	384	293	76.40
Tayabas	1	1	100.00
Union	1,309	915	69.90
Grand total and average	28,137	18,251	64.90

NOTE.—The information in this table is based upon corrected and revised reports, including delayed reports, received up to July 14, 1909.

Cholera statistics arranged in the order in which the towns became infected.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
July 1	Capiz	Capiz	July 30	Feb. 17	45
July 1	Jamindan	do	Jan. 3	Feb. 26	24
July 1	Mambusao	do	July 5	July 28	24
July 1	Panay	do	Dec. 23	Apr. 4	68
July 1	Panitan	do	Feb. 1	Mar. 25	15
July 1	Santa Maria	Ilocos Sur	July 19	Sept. 23	272
July 1	Balingasag	Misamis	July ?	Aug. 12	161
July 1	Tagoloan	do	Aug. 8	Sept. 3	118
July 1	Cuyapo	Nueva Ecija	July 22	Aug. 30	317
July 1	Alcala	Pangasinan	July 3	Aug. 16	177
July 1	Asingan	do	July 14	Aug. 22	142
July 1	Balungao	do	July 4	Aug. 17	95
July 1	Bautista	do	July 4	Aug. 6	53
July 1	Bayambang	do	July 13	Aug. 12	70
July 1	Binalonan	do	July 6	Aug. 1	104
July 1	Calasiao	do	July 15	Sept. 13	46
July 1	Dagupan	do	July 3	July 17	27
July 1	Manaog	do	July 7	Sept. 28	144
July 1	Natividad	do	July 15	July 29	56
July 1	Pozorrubio	do	July 13	Aug. 29	278
July 1	San Jacinto	do	July 15	July 27	29
July 1	San Manuel	do	July 3	July 27	98
July 1	San Quintin	do	July 5	Aug. 13	194
July 1	Santa Maria	do	July 21	Aug. 23	57
July 1	Tayug	do	July 12	Aug. 12	241
July 1	Urbiztondo	do	July 1	July 25	199
July 1	Urdaneta	do	July ?	July 19	17
July 1	Caloocan	Rizal	Sept. 18	Nov. 7	22
July 1	Camiling	Tarlac	July 14	Aug. 14	249
July 1	San Fernando	Union	July 16	Sept. 18	320
July 2	Pontevedra	Capiz	Mar. 16	May 2	82

Cholera statistics arranged in the order in which the towns became infected—Ctd.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
July 2	Malasiqui	Pangasinan	July 11	July 28	27
July 2	San Carlos	....do	July 11	Aug. 21	202
July 2	San Nicolas	....do	July 11	Dec. 12	388
July 3	Pilar	Capiz	July 13	May 3	66
July 3	Mangaldan	Pangasinan	July 6	Aug. 28	84
July 3	Umingan	....do	July 3	July 25	40
July 4	San José	Nuva Ecija	July 10	Aug. 13	48
July 4	Santo Tomas	Union	Aug. 18	Aug. 25	29
July 6	Cagayan	Misamis	July 9	Mar. 15	816
July 6	Moncada	Tarlac	July 8	Aug. 17	93
July 6	Paniqui	....do	July 16	Aug. 30	27
July 6	Bauang	Union	Aug. 7	Aug. 28	142
July 6	Naguilian	....do	July 14	Aug. 26	171
July 9	Bacolor	Pampanga	June 23	June 30	49
July 10	Narvacan	Ilocos Sur	July 30	Sept. 13	339
July 10	Parañaque	Rizal	Nov. 10	Jan. 10	18
July 10	San Juan	Union	Aug. 2	Oct. 19	71
July 11	Camp One	Pangasinan	July 11	Oct. 4	2
July 11	Bacnotan	Union	Aug. 9	Sept. 18	81
July 12	Barrotac Nuevo	Iloilo	Sept. 2	Nov. 17	385
July 12	Gerona	Tarlac	July 12	July 12	1
July 13	Camp 6½	Mountain	July 13	July 13	1
July 14	Candon	Ilocos Sur	Aug. 7	Sept. 7	496
July 14	Nagbuquel	....do	Aug. 1	Aug. 10	35
July 15	Baguio	Mountain	July 15	May 26	4
July 15	Santa Lucia	Ilocos Sur	Aug. 8	Sept. 11	242
July 15	Luna	Union	Aug. 31	Sept. 18	142
July 17	Bulacan	Bulacan	Aug. 3	Dec. 3	76
July 17	Santa Cruz	Ilocos Sur	Aug. 26	Sept. 7	190
July 18	Guagua	Pampanga	Mar. 19	June 24	18
July 18	San Fernando	....do	July 20	June 29	68
July 19	Jaro	Iloilo	Aug. 12	Nov. 4	365
July 19	Victoria	Tarlac	July 20	Sept. 7	13
July 20	Tongan	Mountain	July 20	July 20	2
July 20	Nampicuan	Nueva Ecija	July 20	July 20	1
July 20	Betis	Pampanga	Mar. 11	Jan. 28	44
July 21	Ibisan	Capiz	July 22	Nov. 15	7
July 22	Santiago	Ilocos Sur	July 28	Aug. 16	29
July 23	Navotas	Rizal	Aug. 13	Nov. 11	73
July 24	Twin Peaks	Mountain	July 24	July 24	1
July 24	Dumangas	Iloilo	Aug. 17	Nov. 15	711
July 24	Santa Barbara	....do	Sept. 29	Nov. 11	310
July 24	Tarlac	Tarlac	July 24	July 24	1
July 25	San Fabian	Pangasinan	July 26	July 31	4
July 26	Baguilin	Mountain	Aug. ?	Aug. 27	11
July 26	Malolos	Bulacan	Sept. 14	Feb. 22	67
July 26	Tagbilaran	Bohol	Jan. 14	Feb. 24	46
July 26	San Esteban	Ilocos Sur	July 26	July 26	3
July 26	Angeles	Pampanga	Aug. 11	Oct. 9	4
July 27	Banayoyo	Ilocos Sur	Aug. 3	Aug. 28	37
July 27	Zarraga	Iloilo	Aug. 7	Oct. 7	424
July 28	Iloilo	....do	Aug. 19	June 12	552
July 28	Malabon	Rizal	Oct. 14	Nov. 8	62
July 30	Leganes	Iloilo	Aug. 8	Oct. 6	194
July 31	Pototan	....do	Sept. 5	Jan. 7	636
August 1	Santa Rita	Pampanga	Aug. 7	Nov. 26	4
August 1	Alava	Pangasinan	Aug. ?	Aug. 13	3
August 1	Agoo	Union	Aug. 1	Oct. 31	60
August 1	Balaoan	....do	Aug. 31	Sept. 29	153
August 1	Bangar	....do	Aug. 27	Nov. 3	83
August 1	Tubao	....do	Aug. ?	Sept. 14	31
August 1	Bangued	Abra	Nov. 12	Nov. 16	52
August 2	San Juan	Nueva Ecija	Aug. 10	Aug. 13	9
August 3	Antimoc	Mountain	Aug. 3	Aug. 3	1
August 4	Bocaue	Bulacan	Aug. 10	Nov. 9	23
August 4	Buenavista	Iloilo	Nov. 19	Nov. 25	124
August 4	Leon	....do	Oct. 3	Dec. ?	151
August 5	Aringay	Union	Aug. 3	Aug. 25	17
August 6	Lucena	Iloilo	Sept. 29	Sept. 30	98
August 7	Obando	Bulacan	Sept. 6	Nov. 23	79
August 7	Valladolid	Occidental Negros	Sept. 15	Nov. 7	420
August 8	Cabatuan	Iloilo	Sept. 8	Oct. 23	279
August 8	Bago	Occidental Negros	Sept. 28	Nov. 14	294
August 9	Maasin	Iloilo	Aug. 9	Aug. 13	3
August 9	Licab	Nueva Ecija	Aug. 9	....do	6
August 10	Santo Damingo	....do	Aug. 14	Aug. 15	4
August 11	Polo	Bulacan	Sept. ?	Oct. 16	8
August 11	Navas	Capiz	Jan. 8	Feb. 19	149
August 11	Bolinao	Pangasinan	Aug. 11	Aug. 11	1
August 11	Cabancalan	Occidental Negros	Sept. 11	Feb. 12	276
August 11	Binalbagan	....do	Sept. 16	Oct. 27	158

Cholera statistics arranged in the order in which the towns became infected—Ctd.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
August 13	Pidigan	Union	Aug. 13	Aug. 13	1
August 14	Vigan	Ilocos Sur	Aug. 24	Dec. 23	397
August 14	Janiuay	Iloilo	Sept. 17	---do---	468
August 14	Oton	---do---	Sept. 23	Nov. 5	321
August 15	La Carlota	Occidental Negros	Sept. 11	Nov. 13	483
August 16	Baliuag	Bulacan	Sept. 3	Nov. 4	59
August 16	Rosario	Union	Aug. 23	Sept. 24	7
August 16	Ilog	Occidental Negros	Sept. 9	Oct. 10	457
August 17	Santa	Ilocos Sur	Sept. 3	Dec. 19	123
August 18	Mangatarem	Pangasinan	Aug. 18	Sept. 7	20
August 18	Jinigaran	Occidental Negros	Sept. 15	Nov. 26	282
August 19	Banate	Iloilo	Sept. 12	Oct. 27	384
August 19	Aguilar	Pangasinan	Aug. 19	Aug. 19	1
August 20	Arévalo	Iloilo	Sept. 24	Oct. 6	24
August 20	Cavite	Cavite	Oct. 6	Feb. 11	48
August 21	Santa Maria	Bulacan	Aug. 22	Nov. 27	10
August 21	Silay	Occidental Negros	Sept. 3	Nov. 11	348
August 24	Pilar	Ilocos Sur	Aug. 24	Aug. 24	4
August 24	Santa Catalina	---do---	Sept. 3	Dec. 19	34
August 24	Saravia	Occidental Negros	Oct. 15	Jan. 28	150
August 25	Peñarrubia	Ilocos Sur	Aug. 25	Aug. 26	5
August 25	Aniao	Iloilo	Sept. 22	Sept. 30	127
August 25	Pasig	Rizal	Sept. 25	Jan. 17	114
August 25	Jimamaylan	Occidental Negros	Sept. 3	Nov. 13	203
August 26	Dumarao	Capiz	Sept. 20	Oct. 31	82
August 26	Talisay	Occidental Negros	Oct. 10	Nov. 3	103
August 27	Paombong	Bulacan	Sept. 17	Oct. 18	39
August 28	Alimodian	Iloilo	Sept. 25	Sept. 30	72
August 28	San Miguel	---do---	Sept. 12	Nov. 28	99
August 28	San Carlos	Occidental Negros	Sept. 10	Sept. 20	89
August 29	Dingle	Iloilo	Sept. 29	Dec. ?	242
August 30	Quingua	Bulacan	Sept. 1	Feb. 3	93
August 30	Aniny	Antique	Sept. 2	Sept. 16	133
August 30	Patnongon	---do---	Sept. ?	Oct. 27	236
August 30	Sibalom	---do---	Oct. 14	Nov. 10	420
August 30	Dao	---do---	Sept. 19	Nov. 29	186
August 31	Tagudin	Mountain	Sept. 7	Nov. 27	74
August 31	Pavia	Iloilo	Sept. 1	Sept. 22	72
September 1	Maycauayan	Bulacan	Sept. 3	Dec. 2	12
September 1	Passi	Iloilo	Sept. 22	Oct. 16	218
September 1	Murcia	Occidental Negros	Oct. 20	Oct. 25	53
September 1	Bauan	Batangas	Sept. ?	Sept. 16	7
September 2	Manapla	Occidental Negros	Oct. 24	Nov. 2	79
September 2	Pontevedra	---do---	Sept. 8	Nov. 9	247
September 3	Santo Domingo	Ilocos Sur	Nov. 5	Nov. 5	5
September 3	Miagao	Iloilo	Oct. 6	Dec. 28	50
September 3	Taguig	Rizal	Oct. 3	Jan. 23	49
September 4	Balasan	Iloilo	Sept. 4	Sept. 22	3
September 4	Estancia	---do---	Sept. 12	---do---	4
September 6	Cabugao	Ilocos Sur	Sept. 7	Sept. 15	17
September 6	San Mateo	Rizal	Sept. 12	Jan. 12	128
September 6	Isabela	Occidental Negros	Sept. 23	Nov. 21	227
September 7	San Pedro Tunasan	Laguna	Nov. 1	Dec. 9	34
September 8	San José	Antique	Oct. 12	Jan. 12	383
September 8	Mina	Iloilo	Sept. 16	Sept. 30	102
September 9	Mariquina	Rizal	Dec. 27	June 16	160
September 9	San Juan del Monte	---do---	Sept. 19	Oct. 21	8
September 9	Bacolod	Occidental Negros	Oct. 7	Nov. 23	182
September 9	San Pedro Macati	Rizal	Oct. 11	Oct. 16	6
September 12	Calumpit	Bulacan	Sept. 19	Oct. 11	16
September 12	Hagonoy	---do---	Sept. 17	Dec. 13	29
September 12	Sagay	Occidental Negros	Jan. 10	Feb. 5	145
September 13	Mambajao	Misamis	Apr. 16	Apr. 21	67
September 14	Bigaa	Bulacan	Sept. 14	Sept. 14	1
September 14	San Felipe Neri	Rizal	Oct. 16	Oct. 20	4
September 14	Cuyo	Paragua	Oct. 8	Dec. 10	88
September 15	Lambunao	Iloilo	Sept. 15	Sept. 25	25
September 16	Antipolo	Rizal	Jan. 3	Jan. 14	4
September 16	Pasay	---do---	Oct. 3	Nov. 15	27
September 16	Camalaniugan	Cagayan	Feb. 7	Feb. 7	39
September 17	Ambangonan	Mountain	Sept. 20	Sept. 20	7
September 17	Dumalag	Capiz	Jan. 11	Jan. 21	40
September 17	Bacoor	Cavite	Sept. 17	Sept. 17	1
September 18	Naic	---do---	Dec. 28	Jan. 19	8
September 18	Noveleta	---do---	Sept. 22	Oct. 21	30
September 19	Cauayan	Occidental Negros	Sept. 25	Feb. 6	52
September 20	Mabalacat	Pampanga	Sept. 20	Sept. 20	1
September 20	Masantol	---do---	Sept. 21	Oct. 8	5
September 20	Taytay	Rizal	Jan. 13	Apr. 7	30
September 20	Victoria	Occidental Negros	Nov. 12	Nov. 22	45
September 21	Ibahay	Capiz	Oct. 29	Mar. 11	463

Cholera statistics arranged in the order in which the towns became infected—Ctd.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
September 24	Tigbauan	Iloilo	Oct. 7	Nov. 26	120
September 24	Porac	Pampanga	June 25	June 29	17
September 24	Rosario	Cavite	Oct. 2	Nov. 14	58
September 25	Paete	Laguna	Sept. 25	Sept. 25	1
September 25	Apalit	Pampanga	do	Oct. 12	4
September 26	Imus	Cavite	Oct. 15	Dec. 16	19
September 27	Guimbal	Iloilo	Oct. 9	Dec. 8	364
September 27	Cabiao	Nueva Ecija	Sept. 27	Sept. 27	1
September 28	Las Piñas	Rizal	Sept. 28	Nov. 3	2
September 29	Sexmoan	Pampanga	Jan. 30	June 24	56
September 30	Sara	Iloilo	June 2	June 6	33
October 1	Pulilan	Bulacan	Nov. 29	Dec. 13	40
October 1	Dao	Capiz	Oct. 25	Mar. 4	37
October 1	New Washington	do	Feb. 14	Mar. 18	57
October 1	Laoag	Ilocos Norte	Nov. 3	Jan. 15	272
October 2	Kawit	Cavite	Nov. 12	Dec. 22	49
October 2	Floridablanca	Pampanga	Oct. 2	Oct. 2	1
October 3	Macabebe	do	Oct. 3	Oct. 3	1
October 4	Orani	Bataan	Oct. 4	Oct. 4	1
October 4	San Francisco de Malabon	Cavite	Nov. 8	Jan. 18	14
October 4	Pangil	Laguna	Oct. 7	Oct. 30	26
October 4	Santa Cruz	do	Oct. 30	Dec. 19	17
October 4	Villareal	Samar	Oct. ?	Nov. 9	22
October 5	Arayat	Pampanga	Oct. 6	Oct. 8	7
October 5	Lumbang	Laguna	Oct. 5	Oct. 5	1
October 6	Babatungon	Leyte	Oct. ?	Nov. 9	17
October 9	Calbiga	Samar	Oct. ?	Dec. 21	17
October 13	Tuguegarao	Cagayan	Jan. 3	Apr. ?	191
October 14	Naval	Leyte	Oct. ?	Oct. 21	3
October 14	Davao	Moro	Nov. 22	Dec. 10	32
October 16	Gapan	Nueva Ecija	Oct. 16	Oct. 16	1
October 17	Mauban	Tayabas	Oct. 17	Oct. 17	1
October 18	Candaba	Pampanga	Oct. 18	Oct. 19	3
October 18	Jalajala	Rizal	Oct. 20	Oct. 23	4
October 19	Escalante	Occidental Negros	Mar. 27	May 4	362
October 20	Santa Rosa	La Laguna	Oct. 26	Dec. 9	36
October 20	Madawan	Moro	Oct. ?	Oct. 31	12
October 20	Piso	do	Oct. ?	Oct. 24	4
October 20	Santa Cruz	do	Oct. 20	Oct. 20	1
October 20	Siraoan	do	Oct. ?	Oct. 31	11
October 20	Hinatuan	Surigao	Oct. ?	Oct. 24	150
October 21	Biñan	La Laguna	Feb. 7	Feb. 28	16
October 21	Tacloban	Leyte	Dec. ?	Jan. 14	100
October 22	Bucay	Abra	Oct. 22	Oct. 22	1
October 22	Danglas	do	do	do	5
October 22	Dolores	do	do	do	1
October 23	Maragondon	Cavite	Oct. 23	Oct. 23	1
October 23	Pagsanhan	La Laguna	do	do	1
October 25	Dingras	Ilocos Norte	Nov. 2	Dec. 20	24
October 25	Lasang	Moro	Oct. ?	Oct. 31	16
October 26	Samal Island	do	Oct. 26	Oct. 26	2
October 27	Mariveles	Bataan	Oct. 27	Oct. 27	1
October 27	Aparri	Cagayan	Jan. ?	Jan. 31	72
October 28	Tanay	Rizal	Oct. 28	Oct. 28	1
October 30	Paoay	Ilocos Norte	Dec. ?	Dec. 31	12
October 31	Palo	Leyte	June ?	June 25	10
October 31	Montalban	Rizal	Oct. 31	Feb. 6	5
October 31	Balanguinga	Samar	do	Oct. 31	6
October?	Amulung	Cagayan	Mar. 15	Mar. 15	13
October?	Gattaran	do	Jan. ?	Jan. ?	71
October?	Abulug	do	Oct. ?	Oct. ?	
October?	Tayasan	Oriental Negros	Oct. ?	Nov. 12	16
November 1	Camp Wallace	Union	Nov. 1	Nov. 1	1
November 1	San Rafael	Bulacan	do	Nov. 1	1
November 1	Cabuyao	La Laguna	do	Dec. 8	4
November 2	Catbalogan	Samar	Nov. ?	June 25	79
November 3	Guiuan	do	Dec. ?	Dec. 15	302
November 6	Calibo	Capiz	Nov. 17	Feb. 8	528
November 8	Cadiz	Occidental Negros	Dec. 4	Jan. 7	58
November 8	Calbayog	Samar	Nov. ?	Jan. 21	66
November 9	Zumarraga	do	Nov. 9	Nov. 9	3
November 10	Pandan	Antique	Nov. 10	Nov. 10	1
November 11	Pila	La Laguna	Nov. 11	Nov. 11	1
November 12	Pidig	Ilocos Norte	Nov. 12	Nov. 13	2
November 13	Iguig	Cagayan	Dec. 13	Feb. 28	4
November 13	Cervantes	Mountain	Nov. 13	Nov. 13	1
November 14	Batac	Ilocos Norte	Dec. 10	Jan. 15	61
November 14	Lubao	Pampanga	Jan. 22	Mar. 17	12
November 15	Carigara	Leyte	Jan. 15	Jan. 23	12
November 15	Allen	Samar	Nov. 15	Nov. 15	3

Cholera statistics arranged in the order in which the towns became infected—Ctd.

Date of first case.	Town.	Province.	Highest number of cases.	Date of last case.	Total number of cases.
November 16	Alcala	Cagayan	Dec. 21	Mar. 31	136
November 16	Magsingal	Ilocos Sur	Nov. 16	Nov. 21	2
November 18	Dagami	Leyte	Nov. ?	June 3	31
November 18	Tanauan	do	Oct. ?	Nov. 30	51
November 19	Enrile	Cagayan	Dec. 17	Mar. 15	22
November 24	Bugason	Antique	Nov. 24	Dec. 27	53
November 25	Tanauan	Samar	Nov. 25	June 3	7
November 27	Angat	Bulacan	Nov. 27	Nov. 27	1
November 27	San Miguel	Ilocos Norte	Dec. 31	Jan. 4	16
November 28	Peñablanca	Cagayan	Nov. ?	Dec. 17	15
November 29	Taft	Capiz	Dec. 14	Jan. 31	184
November 30	Mexico	Pampanga	June 15	June 21	4
December 1	Olongapo	Bataan	Dec. 4	Dec. 5	3
December 1	Santa Cruz	Samar	Dec. 1	Dec. 1	4
December 4	Bacarra	Ilocos Norte	Dec. 4	Dec. 4	1
December 12	Butuan	Surigao	Jan. ?	Feb. 5	93
December 13	Solana	Cagayan	Dec. 13	Dec. 13	6
December 14	Tubigon	Bohol	Jan. 24	Mar. 14	117
December 14	Pagsan	Mountain	Dec. ?	Dec. 17	2
December 16	Basey	Leyte	Dec. 16	Dec. 16	4
December 17	Gandara	do	Dec. 17	Dec. 17	23
December 19	Cebu	Cebu	Dec. 19	Jan. 29	6
December 22	Calape	Bohol	Mar. 9	Mar. 12	8
December 23	Pamplona	Cagayan	Dec. 23	Dec. 23	1
December 25	Tapas	Capiz	Dec. 29	Jan. 8	127
December 30	Wright	Samar	Dec. 30	Dec. 30	4
January 1	Calamba	Laguna	Jan. 10	Feb. 28	29
January 1	Masbate	Sorsogon	Jan. 6	Apr. 27	57
January 4	San Nicolas	Ilocos Norte	Jan. 9	Jan. 11	5
January 5	Cainta	Rizal	Jan. 5	Jan. 17	5
January 7	Carcar	Cebu	Jan. 7	Jan. 11	7
January 9	Balamban	do	May ?	May 23	18
January 13	Binangonan	Rizal	Jan. ?	Jan. 17	14
January 15	Piad	Cagayan	Jan. 15	Jan. 15	1
January 19	Muntinlupa	Rizal	Jan. 19	Jan. 19	1
January 24	Ilagan	Isabela	Mar. ?	Apr. 21	126
January 27	Mobo	Sorsogon	Jan. 30	Feb. 7	44
January ?	Baggao	Cagayan	Jan. ?	Jan. ?	26
February 4	Loon	Bohol	Mar. 12	Apr. 17	336
February 10	Cabanatuan	Nueva Ecija	Feb. 10	Feb. 10	3
February 15	Laoay	Bohol	Feb. 15	Feb. 18	9
February 18	Santo Niño	Cagayan	Feb. 28	Mar. 8	31
February 18	Sorsogon	Sorsogon	Feb. 24	Feb. 27	4
February 20	Panglao	Bohol	Feb. 21	Mar. 10	15
February 21	Dauis	do	Feb. 25	Mar. 23	14
February 26	Dulag	Leyte	Feb. 26	Feb. 27	4
February 27	Lasang	Samar	Feb. 27	Mar. 7	3
February ?	Tumauini	Isabela	Feb. ?	Feb. ?	18
March 1	Sapian	Capiz	Mar. ?	Mar. 19	13
March 9	Maribojoc	Bohol	Mar. 10	Apr. 25	77
March 31	Oslob	Cebu	Mar. 31	Apr. 1	13
March ?	San Antonio	Cagayan	Mar. ?	Mar. 15	4
March ?	Dimasalang	Sorsogon	Mar. ?	Apr. 4	62
April 6	Bobon	Samar	Apr. 6	Apr. 6	2
April 14	Milagros	Sorsogon	May ?	May 9	8
April 15	Toledo	Cebu	Apr. 15	Apr. 17	4
April 20	Dapitan	Moro	May 8	June 6	87
April 29	Camalig	Albay	June ?	June ?	32
April ?	Manauan	Cagayan	Apr. ?	Apr. ?	28
May 11	Ayuquitan	Oriental Negros	June 18	June 20	61
May 22	Santa Margarita	Samar	May 22	May 22	2
June 1	Bacacay	Iloilo	June 1	June 11	9
June 1	Alaminos	Pangasinan	June 1	June 1	1
June 3	Burauen	Leyte	June 3	June 3	1
June 5	Cauayan	Samar	June ?	June 15	28
June 7	Tinglayan	Mountain	June ?	June 18	27
June 10	Oas	Albay	June ?	June 30	93
June 14	Minalin	Pampanga	June 21	June 28	4
June 15	Nabua	Camarines	June ?	June 30	17
June 16	Libon	Albay	June ?	June ?	39
June 22	Polangui	do	June ?	June 30	81
June 23	Zamboanga	Moro	June 23	June 23	2
June 24	Daan Bantayan	Cebu	June 24	June 24	3
June 29	Libog	Albay	June 29	June 29	1
Total number of cases					28,117

Chinese hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Male.	Female.	
In hospital at last report	47		47
Received	191	2	193
Discharged	138	2	140
Transferred	2		2
Died	77		77
Remaining in hospital	21		21

Number of cases treated for the cure of the opium habit.

Place and nationality.	In hospital July 1, 1909.	Admitted during year.	Recovered.	Not improved.	Remaining at close of year.
San Lazaro:					
Chinese	21	94	115		
Filipinos		7	7		
Others		4	4		
Total	21	105	126		
Bilibid Prison:					
Chinese	17	274	289	[a]2	
Filipinos		2			2
Others		0			
Total	17	276	289	2	2
Mission, Iloilo:					
Chinese		1	1		
Filipinos					
Others					
Total		1	1		
Grand total	38	382	416	2	2

[a] Died from tuberculosis during treatment.

Opium cases admitted at San Lazaro during the year:

Chinese	94
Filipinos	5
Filipinas	2
East Indian	1
American—	
Male	2
Female	1
Total	105

Statement of insane supported at Government expense in the Hospital de San José.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In Hospicio July 1, 1908	1		9	2	50	62	2				126
Admitted				1		2					3
Discharged							1				1
Escaped					3	7					10
Died											
Remaining	1		9	1	47	53	1				112

BAGUIO HOSPITAL DIVISION.

Cases treated.

[NOTE.—Nine cases remaining from fiscal year 1908 not included in this table. Igorots are classed among Filipinos.]

Diseases.	Operations.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.	Female.
Abscesses:									
Alveolar	1	1						1	1
Inguinal	1	1						1	
Right leg					1			1	
Right tonsil	1	1						1	
Scrotum	1				1			1	
Abortion, accidental					2			2	2
Abrasion, right arm, extensive					1			1	
Adenitis, inguinal, suppurative	1				1			1	
Alcoholism:									
Acute		1						1	
Chronic				1				1	
Arterio sclerosis					1			1	
Amputations:									
Second finger, right hand	1				1			1	
Second and third finger, right hand	1				1			1	
Third fourth and fifth metacarpal bones, left hand	1				1			1	
Forefinger, left hand	1				1			1	
Right leg at knee	1				1			1	
Little finger, right hand	1				1			1	
Arthritis, septic, elbow joint	1				1			1	
Asthenia		1						1	1
Autointoxication, cause undetermined					1			1	
Bartholinitis, acute, suppurative, gonorrheal	2				2			2	2
Beriberi					1			1	1
Bronchitis:									
Acute		1			4			5	
Chronic					1			1	
Burns, right leg and arm, severe, involving both arms, trunk, and right leg					1			[b]1	
Cephalalgia, chronic, cause undetermined					1			1	
Cerebral concussion					1			1	
Chancroid, phagedenic	1	1						1	
Cholelithiasis						1		1	1
Circumcision	5	4			1			5	
Contusion:									
Right hip						1		1	
Of face, and sprain of muscles of neck		1						1	1
Convalescence		5			2			7	3
Conjunctivitis, acute					7			7	
Curettage, and trachel orrhaphy					1			1	1
Cystitis, acute						1		1	1
Dengue fever		2			1			3	1
Diabetes mellitus		1						1	
Diarrhea, acute		14			1	1		16	4
Dislocation:									
Backward, of elbow		1						1	
Backward, head of right radius					1			1	
Dysentery:									
Amebic—									
Acute		7			2			9	5
Chronic		4			1			5	3
Bacillary							1	1	
Catarrhal—									
Acute		1	1		4	1		7	
Chronic		4			1			5	3
Endometritis, (curettage)	1					1		1	1
Epididymitis, gonorrheal	1	1	1	1	2		1	6	
Epulis, removal of	1				1			1	
Eye, enucleation of	1				1			1	
Fever:									
Hemoglobinuric (malarial)						1		[c]1	
Undetermined					1			1	
Fissure of anus	1		1					1	

Cases treated—Continued.

Diseases.	Operations.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.	Female.
Fistula, chronic, over right patella	1		1					1	1
Fractures:									
Left clavicle					1			1	
And laceration, scalp					1			1	
Colles'					1			1	
Patella, and laceration of capsule of knee-joint	1				1			1	
Scapula, comminuted, and severe powder burns					1			1	
Skull—									
Left parietal, with compression of brain	1					1		1	
Frontal, outer table	1					1	1	2	
Frontal, outer table and Colles'							1	1	
Humerus—									
Supra-condyloid ("T" fracture)			1					1	1
Compound comminuted, lower fourth (bone wired) and fracture of right ilium	1				1			1	
Ulna	1				1			1	
Furuncle, external auditory canal						1		1	
Gastritis:									
Acute					2			2	
Chronic		2			1	1		4	
Gastro-enteritis, acute, from orchid poisoning		1						1	
Glossitis, acute, severe		1						1	
Hemiplegia		1			1			2	1
Convalescent			1					1	
Hemorrhage:									
Internal					1			[d]1	
Pulmonary, traumatic		1						1	
Hemorrhoids, internal	1	2		1				3	1
Impetigo contagiosa					1			1	
Infection:									
Foot	4	1			6	1		8	2
Leg	1								
Wrist	1					1		1	
Severe; foot (defect of skin, repaired by skin-grafting)	1				1			1	
Keratitis, ulcerative		1						1	
Malaria:									
Estivo-autumnal		3			5	5		[c]13	1
Type undetermined		4		2	16	2		24	1
Malarial cachexia						1		1	
Meibomian cyst (left upper eyelid) removed	1				1			1	
Muscles; acute spastic contraction of right psoas and iliacus; traumatic					1			1	
Nephritis, chronic		1	1					2	1
Neuralgia, intercostal, rheumatic					1		1	2	
Neurasthenia		1						1	
Otitis media:									
Catarrhal, double		1						1	
Suppurative		1						1	
Parasites, intestinal:									
Ankylostomiasis		4			33	7		44	1
Ascariasis		2			8			10	3
Tenia solium					3			3	
Parotitis					1			1	
Poisoning, accidental (carbolic acid)				1				1	
Parturition	1	2			3			5	5
Pemphigus contagiosa					1			1	
Peritonitis, suppurative					1			[f]1	
Pneumonia:									
Bronchial					1			1	
Croupous					1			1	
Lobar					1			1	
Lobar double					1			[g]1	
Prostatitis, chronic (and chronic interstitial nephritis)					1			1	
Ptomaine poisoning					1			[h]1	

Cases treated—Continued.

Diseases.	Operations.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.	Female.
Puerperal septicemia (curettage) and malaria	1				1			1	1
Pyonephrosis (and amebic dysentery, chronic)	1					1		[i]1	1
Pyosalpingitis (refused operation)					1			1	1
Rheumatism:									
Articular—									
Acute					1			1	
Chronic						1		1	
Muscular, acute		1			2	1		4	1
Rupture of attachment outer head of biceps-femurus					1			1	
Salpingitis, catarrhal					1			1	1
Skin lesions, undetermined					1			1	1
Sprains:									
Ankle		1						1	
Both ankles						1		1	
Lumbar region					1			1	
Synovitis, rheumatic		1						1	
Syphilis, secondary		1			1			2	1
Trachoma, chronic	1				1			1	
Trachelorrhaphy	1				1			1	1
Traumatic shock					1			[k]1	
Tuberculosis, pulmonary		[e]			1			1	1
Ulcers:									
Buttock, chronic		1						1	
Right leg chronic					1			1	
Under observation		7			4	2		13	3
Undetermined					3			[l]3	
Uterus, prolapse of					1			1	1
Vaginitis, gonorrheal					1			1	1
Wounds:									
Contused, right foot				1				1	
Crushing, foot					1			1	
Gunshot, left thigh					1			1	
Incised—									
(Spear), thigh					1			1	
(Spear), chest	1				1			1	
Index finger right hand					1			1	
Foot					2			2	
Infected, foot					1			1	
Lacerated—									
Cheek					1			1	
Index finger left hand					1			1	
Hand and finger					1			1	
Knee					1			1	
Thumb					1			1	
Scalp, face, and legs					1			1	
Scalp					1			1	
Upper lip, completely severing orbicularis oris	1				1			1	
Stab—									
Left hip					1			1	
Pleural cavity and liver					1			[m]1	
Total	47	93	7	7	196	34	5	342	63

[a] Igorot, adult, male, died March 25, 1909, of sapremia, 45 days after amputation.
[b] Igorot, child, male, died December 9, 1908, of extensive burns both arms, leg, and body (from boiling water), about 12 hours after admission.
[c] Japanese, adult, male, died July 8, 1908, of hemoglobinuric fever.
[d] Igorot, adult, male, died February 23, 1909, of internal hemorrhage; brought to hospital in dying condition, died 1 hour after admission.
[e] Filipino, adult, male, died February 28, 1909, of estivo-autumnal malaria (cerebral type); brought to hospital in comatose condition (1 case only).
[f] Igorot, adult, male, died April 22, 1909, of perforative peritonitis 45 minutes after admission.
[g] Filipino, adult, male, died April 23, 1909, of lobar pneumonia (double).
[h] Filipino, child, male, died July 17, 1908, of ptomaine poisoning.
[i] Japanese, adult, female, died May 17, 1909, of chronic amebic dysentery; operation for pyonephrosis; died of dysentery 15 days after operation.
[k] Filipino, adult, male, died March 25, 1909, of traumatic shock; injured by falling from bridge on Benguet Road; died 17 hours after admission.
[l] Igorot, adult, male, died March 8, 1909, of undetermined fever, as per laboratory report (supplementary) No. 67628, Bureau of Science.
[m] Filipino, adult, male, died December 27, 1909, of stab wound, pleural cavity and liver.

Outdoor department, Baguio Hospital.

Diseases.	Number of cases.
Abortion, accidental	1
Abrasions:	
Arm	2
Buttock	3
Face	5
Finger	4
Foot	11
Hand	5
Knee	4
Leg	8
Thigh	2
Thumb	1
Toe	2
Wrist	1
Abscesses:	
Alveolar	4
Arm	1
Buttock	1
Chin	1
Externo-auditory canal	1
Foot	1
Leg	3
Mastoid	1
Thigh	1
Tonsil	1
Peritonsilar	1
Acne	1
Adenitis, cervical	1
Adenitis, inguinal, suppurative, gonorrheal	2
Amputations, finger	2
Anemia	8
Angina pectoris	1
Anus, fissure of	1
Arterio-sclerosis	1
Asthenia	38
Asthma	2
Bartholinitis	1
Bronchitis, acute	127
Bronchitis, subacute	16
Bronchitis, chronic	20
Bubo, nonvenereal	2
Burns:	
Arm	1
Back	1
Finger	1
Neck	1
First degree (general)	1
Carbuncle	1
Cephalalgia (undetermined)	8
Chancroid	8
Chancroid phagedenic	2
Cholera Asiatica	1
Circumcision	2
Clavus	1
Conjunctivitis, acute	58
Conjunctivitis, chronic	11
Constipation, acute	105
Constipation, chronic	17
Contusions:	
Ankle	1
Breast	1
Chest	1
Face	2
Head	1
Knee	1
Cystitis, acute	3
Cystitis, chronic	3
Dengue fever	2
Dental caries	11
Dentition, difficult	2
Dermatitis (undetermined)	47
Dhobie itch	26
Diarrhea, acute	66
Dislocation, first metacarpo-phalangeal joint right hand	1
Distichiasis	1
Dysentery	37
Eczema, acute	4
Eczema, aurum	1
Endometritis	4
Epididymitis, gonorrheal	3
Exostosis; left nasal bone (excision of)	1
Foreign body in eye	2
Foreign body imbedded in cornea	3
Fractures:	
Humerus (inner condyle)	1
Metacarpal bone	1
Rib	1
Ulna	1
Furuncle	11
Gastric hyperacidity	3
Gastric lavage	1
Gastritis, acute	57
Gastritis, chronic	9
Gastro-enteritis, acute	15
Gastro-enteritis, chronic	4
Goiter	2
Heart, aortic stenosis of	1
Heart, insufficiency of	1
Heart, mitral regurgitation of	2
Hemiplegia	3
Hemorrhoids, external	3
Hemorrhoids, internal	2
Herpes zoster	1
Hordeolum	2
Impetigo contagiosa	7
Impacted cerumen	4
Indigestion, intestinal, acute	2
Indigestion, intestinal, chronic	1
Infections:	
Arm	3
Finger	3
Foot	1
Hand	9
Knee	2
Leg	6
Shoulder	1
Thumb	2
Inflammation, submaxillary glands	1
Insanity	1
Insomnia	2
Keratitis	1
Laryngitis, acute	1
Leucorrhea	1
Lymphangitis, head and neck	1
Malaria	161
Malarial cachexia	8
Meatotomy	1
Menorrhagia	3
Menstruation, difficult	1
Miliaria	1
Nausea of pregnancy	1
Nephritis, chronic	4
Neuralgia, rheumatic	3
Neurasthenia	3
Otitis media, acute, catarrhal	8
Otitis media, acute, suppurative	6
Oxaluria	1
Paralysis, infantile	1
Parasites, intestinal:	
Ascariasis	23
Ankylostomiasis	1
Tenia solium	1
Parotitis	7
Pediculosis capitis	1
Pemphigus contagiosa	2
Pertusis	2
Pharyngitis	2
Pyorrhea alveolaris	8
Rectal sinus	1
Removal of finger nail	2
Removal of toe nail	2
Rheumatism, articular, chronic	1
Rheumatism, muscular, acute	152
Rheumatism, muscular, chronic	3
Rhinitis, acute	12
Rhinitis, chronic	1
Rhinitis, hypertrophic	5
Sciatica, rheumatic	1
Seminal vesiculitis, acute gonorrheal	1
Seminal vesiculitis, chronic	7
Sinusitis, frontal, catarrhal	1
Sprains:	
Ankle	4
Foot	

Outdoor department, Baguio Hospital—Continued.

Diseases.	Number of cases.
Sprains—Continued.	
Knee	1
Leg	1
Thigh	1
Thumb	1
Toe	1
Wrist	3
Sprue	1
Stomatitis, parasitic, acute	24
Stricture, posterior urethra	8
Syphilis, secondary	16
Teeth extracted (cases)	80
Tinea circinata	2
Tinea imbricata	7
Tinea versicolor	2
Tonsilitis, follicular, acute	7
Trachoma, acute	3
Trachoma, chronic	13
Tuberculosis, intestinal	1
Tuberculosis, pulmonary	26
Ulcers:	
Chronic, buttock	1
Face, chronic	1
Groin, chronic	1
Leg, chronic	4
Foot	1
Furuncular	1
Nasal	1
Urethritis:	
Gonorrheal, female	2
Gonorrheal, acute, anterior	9
Gonorrheal, acute, posterior	10
Gonorrheal, chronic, posterior	2
Posterior, simple	2
Uterus, prolapse of	1
Vaginitis, simple	1
Vomiting of pregnancy	1
Wounds:	
Contused, finger	2
Contused, leg	2
Contused, scalp	2
Contused, thumb	3
Incised, cheek	1
Incised, ear	1
Wounds—Continued.	
Incised, face	1
Incised, finger	6
Incised, foot	3
Incised, hand	7
Incised, knee	1
Incised, scalp	2
Incised, thumb	2
Infected, arm	1
Infected, cheek	2
Infected, face	3
Infected, finger	14
Infected, foot	30
Infected, hand	9
Infected, head and face	1
Infected, heel	2
Infected, leg	9
Infected, scalp	4
Infected, thumb	2
Infected, toe	9
Lacerated, arm	1
Lacerated, cheek	2
Lacerated, ear	1
Lacerated, face	2
Lacerated, finger	5
Lacerated, foot	10
Lacerated, hand	9
Lacerated, knee	2
Lacerated, leg	4
Lacerated, lip	1
Lacerated, scalp	10
Lacerated, scalp and leg	1
Lacerated, thumb	3
Lacerated, toe	1
Lacerated, wrist	1
Punctured, arm and chest	1
Punctured, finger	1
Punctured, foot	8
Punctured, leg	1
Punctured, neck and groin	1
Stab, left hip	1
Total	1,760

Specimens examined at the hospital laboratory.

Specimens.	American.	European.	Afro-American.	Filipino.	Japanese.	Chinese.	Total.
Feces	145	8	11	294	52	3	513
Pus	2			12	1	1	16
Semen			1				1
Sputum		1		5			6
Stomach contents	14	1			1		16
Urine	70	7	1	32	10		120
Blood:							
Malaria	7			16	8	1	32
Leucocyte count	1			3		1	5
Red cell count	2			2		1	5
Spirocheta pallida	1						1
Total	242	17	13	364	72	7	715

Intestinal parasites.

	American.	European.	Afro-American.	Filipino.	Igorot.	Japanese.	Chinese.	Total.
Number of persons examined	70	7	40	94	42	18	2	237
Parasites found:								
Ameba	9	-------	-------	4	2	2	-------	17
Ascaris lumbricoides	3	-------	-------	20	14	3	-------	40
Ankylostomum intestinalis	3	-------	-------	20	13	5	-------	41
Circomona hominis	2	1	-------	4	-------	4	-------	11
Tenia solium	-------	-------	-------	2	2	-------	-------	4
Tricocephalus hominis	1	-------	-------	44	13	3	-------	61
Tricomonas	1	-------	-------	-------	-------	-------	-------	1
Total	19	1	-------	94	44	17	-------	175

Miscellaneous statistics.

Number of cases treated from July 1, 1908, to June 30, 1909	339
Average number of days spent in hospital by all patients	3,346
Average number of days spent in hospital, per patient	9.53
Average number of days spent in hospital, per amebic dysentery patients	22
Number of prescriptions filled from July 1, 1908, to June 30, 1909	2,457
Number of cases, outdoor department	1,759
Average cost per capita of subsistence:	
From July 1, 1906, to June 30, 1907	₱0.8589
From July 1, 1907, to June 30, 1908	₱0.7822
From July 1, 1908, to June 30, 1909	₱0.6383
Number of laboratory examinations performed at the hospital laboratory	715
The approximate cost of water pumped by hospital pumping plant per liter	₱0.000211

Sources of revenue.

Month.	Hospital charges.	Prescriptions.	Surgical dressings.	Extra subsistence.	Sales of property.	Hotel rent.	Total. 1909	Total. 1908
1908—July	₱220.00	₱22.00	-------	₱8.25	₱80.00	₱175.00	₱505.25	₱445.00
August	141.50	8.50	-------	6.00	-------	175.00	331.00	285.00
September	71.00	8.00	-------	21.00	-------	175.00	275.00	409.75
October	72.75	8.00	₱6.00	18.75	-------	175.00	280.50	321.75
November	149.75	10.50	11.00	18.00	-------	175.00	364.25	259.50
December	79.13	10.00	1.00	39.75	24.00	175.00	328.88	170.25
1909—January	175.50	7.00	-------	6.75	-------	175.00	346.25	577.00
February	71.50	4.50	1.00	7.50	-------	175.00	259.50	274.25
March	185.00	12.00	-------	27.00	-------	175.00	399.00	199.00
April	507.75	43.00	17.00	21.75	-------	175.00	764.50	596.75
May	1,231.25	22.00	-------	9.50	1.50	175.00	1,439.25	630.50
June	1,080.50	27.00	5.00	18.00	1.50	175.00	1,257.00	732.75
Total	3,917.63	182.50	41.00	202.25	107.00	2,100.00	6,550.38	4,891.50

NOTES ON "ANKYLOSTOMA" CASES.

The ankylostoma cases gave the following towns throughout the various provinces, as their place of residence:

Albay Province: Bagakay, Guinobatan, Ligao.

Ambos Camarines: Nueva Caceres.

Benguet: Antimok, Baguio, Camps Nos. 1, 4, 6, (Benguet Rd.), Esperanza, Kapangan, La Trinidad, Tublay.

Laguna: Calamba.

Misamis: Misamis.

Negros Occidental: Bacolod.

Pampanga: Calumpit, Macabebe.

Pangasinan: Binmaley, Mangaldan, Pozorrubio, Santa Barbara, Urdaneta.

Samar: Basay.

Union: Kuba, San Fernando, San Juan.

Manila.

Average cost of subsistence per person, per day, including patients and employees, etc., of the Baguio Hospital division.

July, 1908	₱0.71
August, 1908	.65
September, 1908	.72
October, 1908	.63
November, 1908	.60
December, 1908	.559
January, 1909	.61
February, 1909	.565
March, 1909	.609
April, 1909	.70
May, 1909	.65
June, 1909	.65
Net average cost per person, per day for twelve months, fiscal year 1909..	.63775

BILIBID PRISON.

Report of sick at Bilibid Prison.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Abscesses	7	104			105	6
Abscess, ischio-rectal	2	18			14	1
Anemia		5			3	2
Anemia, pernicious	3	3			6	
Angina pectoris		4			4	
Ankylostomiasis	19	436			454	1
Anorexia		2			2	
Aortic insufficiency		2			2	
Ascariasis		118			118	
Adenitis		9			7	2
Adenitis, tuberculous		2			2	
Asiatic cholera		80	11	10	9	
Amblyopia		1			1	
Arthritis, purulent		4			2	2
Asthma		10			7	3
Amebiasis		12			12	
Balantidium coli		2			2	
Beriberi	39	40	3		76	
Bronchitis, acute	12	157			154	15
Bronchitis, chronic	2	94			75	21
Biliary lithiasis		1			1	
Bunions		1			1	
Burns		1			1	
Broncho-pneumonia		3	1		1	1
Carcinoma of liver		1				1
Cardiac insufficiency		3			3	
Cardio-sclerosis	1				1	
Cataract	1					1
Carbuncle		6			5	1
Catarrh, acute		1			1	
Chancroid		2			2	
Cerebral hemorrhage		1	1			
Colic, intestinal		21			21	
Colitis		42	1		38	3
Conjunctivitis	1	53			50	4
Constipation		124			120	4
Conjunctivitis, granular		1			1	
Compound fracture		1			1	
Congestion of liver		2			2	
Cystitis	1	1			2	
Cyst, below left ear		2			2	
Circumcision		1			1	
Cirrhosis of liver		2	1			1
Coryza		1			1	
Cicatricial contracture		2			1	1
Dementia		3			3	
Dermatitis, toxic		1			1	
Dhobie itch		1			1	
Diarrhea	1	68			62	7
Dysentery, acute	1	18	1		17	1
Dysentery, amebic	31	103			133	1
Dysentery, chronic		4	1		2	1
Dislocation of shoulder		1			1	
Dyspepsia	2	193			190	5
Elephantiasis	1	3			4	
Enteritis, acute	3	13			16	
Entero-colitis	1	28	1		28	
Enteritis, chronic		1			1	

Report of sick at Bilibid Prison—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged	Remaining.
Enteritis, subacute		5			5	
Endocarditis		2			2	
Emphysema, pulmonary		3			3	
Epilepsy		1			1	
Eczema		3			3	
Furunculosis		2			2	
Furuncle		2			2	
Fistula in ano	5	65			60	10
Fistula, urinary	1				1	
Gangrene, pulmonary		1	1			
Glaucoma		3			3	
Gastritis, acute	10	31			41	
Gastritis, chronic		1			1	
Gastro-enteritis		3			3	
Gonorrhea		5			5	
Grippe	2	5			7	
Gingivitis		1			1	
Heat exhaustion		1			1	
Hepatic cirrhosis	1	2	2		1	
Hepatitis, acute		2			2	
Hemiplegia	1	1			2	
Hemorrhoids	2	24			22	4
Hernia, inguinal	1	22			18	5
Herpes zoster	2				2	
Hemoptysis		9			8	1
Hematoma		1			1	
Helminthiasis		289			289	
Hiccough		1			1	
Hydrocele	1	13			14	
Intestinal obstruction		1			1	
Iritis	2				2	
Icterus, catarrhal		1			1	
Jaundice		2			1	1
Keratitis		7			7	
Laryngitis, acute		3			2	1
Leprosy	2	2		4		
Lipoma		3			3	
Locomotor ataxia	1				1	
Lumbago		2			2	
Meningitis, acute		3			3	
Malaria	17	271			283	5
Malarial cachexia		3	2		1	
Mania		3			3	
Mastoid abscess	1				1	
Measles		4			4	
Migraine		12			12	
Morphinism	17	250			265	2
Mitral insufficiency		5			3	2
Myalgia		2			2	
Myelitis		1			1	
Myositis		1			1	
Mumps	3	10			13	
Neuralgia		4			4	
Neurasthenia		3			3	
Nephritis, interstitial	6	4			10	
Nephritis, acute		4	2		2	
Nephritis, chronic		2			1	1
Neuritis		3			3	
Ophthalmia		6			6	
Opiumism		26			24	2
Orchitis		8			7	1
Osteitis	1				1	
Osteomyelitis		1				1
Otitis media		1			1	
Paragonimus Westermanii		2			2	
Paraplegia		6			2	4
Paralysis		1			1	
Parturition		1			1	
Pemphigus, contagiosa	1	1			2	
Peritonitis		5	1		2	2
Pneumonia, lobar	3	16	1		18	
Pneumonia, tuberculous		1	1			
Pneumonia, acute		7			7	
Parasites, intestinal		72			72	
Pleurisy		2			2	
Pharyngitis, acute		1			1	
Penetrating wound of chest		1			1	
Posterior sclerosis	1				1	
Prolapse of rectum		7			7	
Pterygium	2	1			3	
Pulmonary congestion		6			5	1

Report of sick at Bilibid Prison—Continued.

Diseases.	Remaining at last report	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Pulmonary edema		1	1			
Proctitis		1			1	
Pericarditis, chronic		1	1			
Phimosis		1			1	
Rheumatic fever		1			1	
Rheumatism, acute	5	35			36	4
Rheumatic arthritis		4			4	
Redundance of scrotum	1	1			2	
Retention of urine		2			2	
Staphyloma		1				1
Sarcoma, retro-peritoneal		1	1			
Sebaceous cyst		5			5	
Septicemia		1	1			
Septicemia, puerperal		1	1			
Scald of face		1			1	
Sprains		2			2	
Sprue		1			1	
Serpiginous ulcer	1				1	
Spastic paraplegia	2	3			3	2
Senile debility		16			13	3
Spinal sclerosis	3	1			4	
Stomatitis		6			6	
Syphilis	2	8			8	2
Trachoma	7	7			13	1
Tenia saginata		1			1	
Tenia		7			7	
Tenia imbricata		5			5	
Trichophytosis		3			3	
Tuberculosis, pulmonary	162	198	86	3	142	124
Tuberculosis, miliary		1	1			
Tuberculosis, general		4	4			
Tuberculosis of peritoneum		2			1	1
Tuberculosis, intestinal		1	1			
Tumors	1	1			2	
Troubles of pregnancy		2			2	
Typhoid fever		1	1			
Ulcers		51			44	7
Urethral stricture	1	10			11	
Urticaria		2			2	
Vaccinia		2			2	
Varicella		1			1	
Varicocele		2			2	
Varicose veins		9			9	
Varioloid		31			31	
Vibrio carriers		22			22	
Vibrio carriers, suspects		3			3	
Wounds	8	71			73	1
Yaws		1				1
Total	399	3,556	129	17	3,534	275

Bilibid prison report of deaths.

Diseases.	Presidio.			Carcel.			Total.	Condition.			Norte cemetery.
	Filipinos.		Chinese, male.	Filipinos.		Chinese, male.		Single.	Married.	Widower.	
	Female.	Male.		Male.	Female.						
Typhoid fever (abdominal typhus)	1						1		1		1
Malarial cachexia	2						2	1	1		2
Asiatic cholera	11		1	3		2	17	7	8	2	17
Dysentery	2						2		1	1	2
Other epidemic diseases (beriberi)	2			1			3	1	1	1	3
Tuberculosis of the lungs	80	1		7		2	90	36	44	10	90
Abdominal tuberculosis	1						1		1		1
General tuberculosis	3	1					4	2	1	1	4
Cancer and other malignant tumors of the buccal cavity	1						1	1			1
Anemia chlorosis	1						1	1			1
Congestion and hemorrhage of the brain	1						1		1		1
Other forms of mental alienation	2			1			3	1	2		3
Pericarditis	1						1		1		1
Broncho-pneumonia	1						1			1	1
Pneumonia				1			1		1		1
Diarrhea and enteritis (2 years and over)	2						2		2		2
Cirrhosis of the liver	2						2		2		2
Other diseases of the liver						1	1	1			1
Simple peritonitis (non puerperal)						1	1			1	1
Acute nephritis	2			1			3	1	2		3
Diseases of the urethra, urinary abscess, etc				1			1			1	1
Puerperal septicemia					1		1			1	1
Other external violence				7			7	2	4	1	7
Total	115	2	1	22	1	6	147	54	73	20	147

Died in Bilibid Hospitals, 129; legally executed, 7; died in San Lazaro Hospitals, 10; and died in Hospicio de San José, 1. Total, 147.

Iwahig penal colony, sick report.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Abscesses		11		11	
Abscess, ischio-rectal		2		2	
Adenitis		1		1	
Anemia		2		2	
Angina pectoris		1		1	
Anthrax		1		1	
Apoplexy, cerebral		1	1		
Arterio-sclerosis		5		5	
Beriberi		1		1	
Bites of poisonous animals		2		2	
Bronchitis, acute	2	13		15	
Broncho-pneumonia		1	1		
Burns		1		1	
Cholera		1		1	
Congestion, pulmonary		1		1	
Conjunctivitis		4		3	1
Constipation	1	5		6	
Contusions		17		17	
Cysts		1		1	
Cystitis		1		1	
Diabetes		1		1	
Diarrhea and enteritis		4		4	
Dermatitis		3		3	
Disease of the nasal fossae		1		1	
Dysentery		1		1	
Dysentery, amœbic		1		1	
Dysentery, chronic		1	1		
Eczema		6		6	
Enteritis		3		3	
Epilepsy	1	4		4	1
Erythema		1		1	
Filariasis		1		1	
Fistula, anal		1		1	

Iwahig penal colony, sick report—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Fistula, maxillary sinus		1		1	
Furuncle		1		1	
Gastritis, acute		2		2	
Gingivitis		1		1	
Gonorrhea		3		3	
Hemorrhoids		2		2	
Hernia, inguinal		1		1	
Herpes		6		5	1
Hydrarthrosis		1		1	
Hydrocele		1			1
Iritis		1		1	
Keratosis, palms and soles		1			1
Laryngitis		2		2	
Laryngo-bronchitis		6		6	
Lymphangitis		2		2	
Malaria	8	264	1	267	4
Mental alienation		1		1	
Muscular contracture		1		1	
Myelitis		2		2	
Naso-laryngitis, catarrhal, acute		2		2	
Naso-pharyngitis		2		2	
Orchitis		1		1	
Organic disease of the heart		2		2	
Ozena		1		1	
Palpitation of the heart		1		1	
Panaris		1		1	
Paragonimus Westermanii	1		1		
Parasites intestinal		1		1	
Parotiditis		1		1	
Periostitis		5		5	
Pleurisy		2		2	
Pneumonia		1	1		
Pulmonary emphysema		1		1	
Rheumatism		20		20	
Scleritis		1		1	
Stomatitis		1		1	
Synovitis		1		1	
Syphilitic arthritis		1		1	
Tonsilitis		2		2	
Tuberculosis, intestinal		1			1
Tuberculosis, peritoneal, chronic		1		1	
Tuberculosis, pulmonary	2	9	3	4	4
Ulcers	2	8		10	
Under observation	1	55		56	
Urticaria		1		1	
Wounds from various weapons	2	64	1	65	
Total	20	585	10	581	14

CIVIL HOSPITAL DIVISION.

Medical cases.

Diseases.	Male.	Female.	Deaths.	Diseases.	Male.	Female.	Deaths.
Albuminuria		2		Delirium	1		
Alcoholism	23			Dementia	11		
Amœbiasis intestinalis	45	8	1	Dengue	41	8	
Apoplexy	5		1	Diabetes mellitus	1		
Asthma	8		1	Dysentery (nonamœbic)	30	14	2
Beriberi	62	6		Dyspepsia	8	2	
Bronchitis:				Enteritis:			
Acute	29	7		Acute	31	6	
Chronic	14	4		Chronic	11	5	
Bronchopneumonia	5	1		Gastro-	20	7	
Cholera Asiatica (suspects)	11			Epilepsy	3		
Cirrhosis of liver	1			Epistaxis	1		
Colic:				Fatigue	1		
Intestinal	20	1		Febricula	6		
Renal	3			Gastric dilatation	2		
Constipation:				Gastric ulcer		2	
Acute	16	1		Gastralgia	2		
Chronic	6	2		Gastritis:			
Convalescence, from malaria	21	1		Acute	13	3	
Croup, spasmodic		1		Chronic	15	1	
				Heat exhaustion	1		

Medical cases—Continued.

Diseases.	Male.	Female.	Deaths.
Hemiplegia (see Apoplexy)	3		
Hemophilia	1		
Hemoptysis	6		
Hepatitis		1	
Hypochondriasis	1		
Hysteria		1	
Influenza	13	1	
Intestinal parasites:			
Ascaris lumbricoides	18	3	
Hookworms	6		
Monads	10	3	
Oxyuris vermicularis	1		
Paragonimus Westermanii	1		
Strongyloides stercoralis	1		
Tenia	2		
Trichuris trichura	20	3	
Trichocephalus dispar	9		
Uncinaria	4		
Iodine poisoning	1		
Jaundice, catarrhal	4		
Locomotor ataxia	1		
Lumbago	3		
Malaria:			
Cachexia	1		
Estivo-autumnal	45	1	
Quartan	2		
Tertian	90	4	
Malingering	10	1	
Malnutrition	3		
Marasmus			2
Migraine	5	2	
Mitral disease	3	1	1
Morphinism	1	1	
Mumps	8		
Myalgia	6	2	
Nephritis:			
Acute	1		
Chronic parenchymatous	2		
Chronic tubercular			1
Neuralgia	1		
Neurasthenia	3	6	
Neuritis optic	1		
Neuritis traumatic	1		
Pharyngitis	1		
Pleurisy	1		
Pneumonia lobar	4	2	
Ptomaine poisoning	5	1	
Rheumatism chronic	2		
Sciatica	5		
Smallpox, suspected	3	1	
Syncope, cardiac	1		
Sprue	2	1	1
Syphilis:			
Primary	1		
Secondary	2		
Tertiary	10		
Teething		1	
Tuberculosis	25	1	5
Typhoid fever	13	1	1
Undetermined (those leaving before diagnosis and those for observation)	37	8	
Varicella		11	
Vertigo	1		
Total	868	139	16

Surgical cases (including eye, ear, nose, throat and skin).

Diseases.	Male.	Female.	Deaths.
Abdominal adhesions	1	2	
Abdominal fistula		1	[a]1
Abcess:			
Arm and forearm	5		
Breast		4	
Ear		1	
Face	1		
Foot	1		
Frontal sinus	1		
Gluteal	1		
Leg	2		
Liver	6		
Palmar	1		
Perineal	3	1	
Peritonsillar	3	2	
Prostatic	1		
Scrotal	2		
Submaxillary	5		
Subphrenic	1		[a]1
Thigh	1	1	
Adenitis, cervical	6	2	
Adenitis, axillary		1	
Amputation:			
Fingers	3		
Leg	2		
Toes	5		
Aneurysm, aortic	1		
Ankylosis of hip joint	1		
Appendectomy	64	38	
Appendicitis:			
Catarrhal acute	19	10	
Catarrhal chronic	35	17	
Suppurative	10	2	[b]2
Arthritis, gonorrheal	5		
Astigmatism	1		
Blastomycosis of skin		1	
Buboes	6		
Burns	4		
Bursitis	1		
Carbuncle	3		
Carcinoma:			
Of breast		3	
Of jaw	2		
Of liver	1		
Of neck			1
Cataract:			
Senile	3	6	
Traumatic	3		
Cellulitis:			
Of back	1		
Of foot	2		
Of thigh	1		
Chancroids	8		
Cholecystitis	4	4	
Cholelithiasis (gallstones)	6	1	
Circumcision	9		
Concussion of brain	3		
Conjunctivitis:			
Catarrhal	8		
Gonorrheal	2		
Mucopurulent	2		
Traumatic	4		
Contusions:			
Of body	6		
Of chest	2		
Of eyelids	1		
Of foot	3		
Of head	1		
Of hip	2		
Of jaw	2		
Of knee	1		
Of leg	5		
Corneal:			
Rupture	2		
Ulcers	10		
Cyst, sebaceous	1	1	
Cystitis	11	4	
Dermatitis	5		
Dhobie itch	1		

[a] Filipinos. [b] White.

Surgical cases (including eye, ear, nose, throat and skin)—Continued.

Diseases.	Male.	Female.	Deaths.
Dislocation:			
Of elbow	1		
Of knee	1		
Of shoulder	1		
Eczema	2	1	
Eczema seborrheica	1		
Empyema of antrum	1		
Enucleation of eye	3	1	
Episcleritis	1		
Epididymitis	2		
Erythema	1		
Extraction of teeth		1	
Excision of shoulder joint	1		
Fissure, rectal	1	1	
Fistula in ano	15	3	
Foreign body in esophagus			[a]1
Fracture:			
Of clavicle	2		
Of leg	3		
Of metacarpals	2		
Of rib	1		
Of skull	2		[a]1
Of spine			[a]1
Of thigh	2		
Furunculosis of ear	1		
Glaucoma		1	
Goitre, cystic		1	
Gonorrhea	27		
Hematuria	1		
Hemorrhage, cerebral			[b]1
Hemorrhoids	12	1	
Hernia:			
Inguinal	9		
Ventral	1	1	
Hydrocele	4		
Hypermetropia	1		
Ingrowing toe nails	2		
Insect bites	1		
Iridocyclitis	2		
Iritis	7		
Keloids	1		
Keratitis	1		
Kidney, movable		2	
Laryngitis	3	2	
Meningitis			[b]1
Nasal:			
Obstruction	1		
Polypus	1		
Nephrolithiasis	1		
Orchitis:			
Gonorrheal	10		
Tubercular	1		
Otitis:			
External	4		
Media	7	4	
Pancreatitis			[a]1
Paraphimosis	1		
Phlebitis		1	
Prickly heat		1	
Proctitis	1		
Prolapse of rectum	1		
Prostatitis	2		
Psoriasis	1		
Pterygium	6		
Pyelitis and Pyonephrosis	5		
Pyemia	1		
Retinitis		1	
Rhinitis	6		
Rupture of eye	2		
Splenoptosis		2	
Sprain:			
Of ankle	5	1	
Of knee	3	1	
Of thigh	1		
Strabismus	6		
Stricture:			
Of rectum	1		
Of urethra	4		
Supernumerary fingers	1		
Synovitis of knee	1		
Tetanus (convalescent)	1		
Tonsilitis	2	1	
Trachoma		2	
Tumor:			
Of brain	1		
Of breast (nonmalignant)		1	
Of buttocks		2	
Of ear	1		
Of eye	1		
Of face	1		
Of foot	1		
Of head	1		
Of mesentery	1		
Of neck	1		
Ulcers:			
Of foot	3		
Of leg	7	1	
Of uveitis	1		
Varicocele	5		
Varicose veins		1	
Vesicular calculus			[a]1
Wounds, gunshot:			
Of arm	1		
Of chest	2		
Of foot	1		
Of leg	1		
Wounds, incised:			
Arm and hand	6		
Of abdomen	1		
Of back	2		
Of chest	4		
Of face	2		
Of leg	1		
Of neck	2		
Of thigh	1		
Wounds, infected:			
Of arm and forearm	2		
Of foot	6		
Of hand and fingers	4		
Of leg	1		
Of lip	1		
Of toes	2		
Wounds, lacerated:			
Of arm	2		
Of ear	1		
Of face	1		
Of fingers	6		
Of foot	2		
Of hand	5		
Of leg	2		
Of lip	1		
Of nose	1		
Of scalp	6		
Of toe	2		
Wounds, punctured:			
Of foot	1		
Of forearm	1		
Total	601	136	13

[a] Filipinos. [b] White.

Obstetrical and gynecological cases.

Diseases.	Female.	Deaths.	Diseases.	Female.	Deaths.
Abortion	2		Placenta previa	1	
Abortion, threatened	3		Pregnancy	11	
Cancer of uterus	[a]4		Pregnancy, extrauterine	4	
Cervitis	1		Premature birth		[b]1
Childbirth	60		Rectocele	1	
Curettage	29		Retroversion and retroflexion	6	
Cystocele	1		Salpingitis and pyosalpingitis	10	[c]1
Eclampsia		[b]1	Septicemia, puerperal	1	[b]2
Endometritis:					
Acute	5		Stillborn		[c]1
Chronic	14		Trachelorrhaphy	2	
Insanity of pregnancy		[b]1	Vaginal lacerations	1	
Myofibroma	1		Vaginitis	1	
Oöphoritis	7				
Ovarian cyst	3		Total	174	7
Perineorrhaphy	6				

[a] Two hysterectomies. [b] Filipinos. [c] White.

Medicines dispensed.

Department.	Bureau.	Number.
Legislative	Commission and Assembly	163
Executive	Executive	182
	Audits	219
	Civil Service	38
Interior	Agriculture	116
	Forestry	46
	Health	400
	Lands	300
	Science	156
	Weather	3
Commerce and Police	Constabulary	212
	Public Works	255
	Navigation	148
	Posts	346
	Coast and Geodetic Survey	69
Justice and Finance	Justice	135
	Customs	350
	Internal Revenue	180
	Treasury	109
Public Instruction	Education	1,313
	Supply	137
	Prisons	119
	Printing	295
Judicial	Courts at large	108
Municipal service of Manila	Secret service	73
	Police department	1,074
	Fire department	196
	Other departments	269
	Charity and emergency	1,348
	Discharged patients	427
Total		8,781
Medicines supplied to the wards and operating room		8,882
Total medicines dispensed during the fiscal year		17,663

Average cost of subsistence per patient, per day, of the Civil Hospital Division.

July, 1908	₱1.23
August, 1908	1.11
September, 1908	1.06
October, 1908	1.12
November, 1908	1.40
December, 1908	1.27
January, 1909	1.29
February, 1909	1.26
March, 1909	0.96
April, 1909	0.967
May, 1909	0.7855
June, 1909	0.769

CULION LEPER COLONY DIVISION.

Status of lepers.

Status.	Europeans, male.	Filipinos.		Chinese, male.	Total.
		Male.	Female.		
Remaining July 1, 1908	1	837	493	2	1,333
Admitted	1	844	476	2	1,323
Born		11	5		16
Discharged		8	10	1	19
Escaped		48	2		50
Died		554	308		862
Remaining	2	1,082	654	3	1,741

Average cost of subsistence per leper, per day, at the Culion leper colony.

July, 1908	₱0.14
August, 1908	0.144
September, 1908	0.144
October, 1908	0.128
November, 1908	0.135
December, 1908	0.132
January, 1909	0.136
February, 1909	0.133
March, 1909	0.13
April, 1909	0.136
May, 1909	0.1252
June, 1909	0.1379

SANITARY ENGINEERING DIVISION.

Number of orders issued.

Month issued.	Sanitary engineer division.	Health districts.					
		No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.							
July	147	10	15	4	0	24	200
August	102	12	6	1	0	0	121
September	75	18	2	0	0	1	96
October	192	10	28	4	0	10	244
November	136	16	55	12	7	42	268
December	276	19	2	2	2	2	303
1909.							
January	271	20	21	13	5	0	330
February	79	11	5	13	0	1	109
March	59	13	18	3	0	1	94
April	69	70	14	70	1	0	224
May	110	18	11	13	0	0	152
June	31	10	19	10	2	5	77
Total	1,547	227	196	145	17	86	2,218

Number of orders obeyed.

Month issued.	Sanitary engineer division.	Health districts.					
		No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.							
July	62	2	0	3	8	0	75
August	73	1	2	2	0	0	78
September	87	10	2	0	0	0	99
October	81	0	17	0	0	0	98
November	190	6	24	12	4	33	269
December	105	0	21	4	8	0	138
1909.							
January	142	0	5	9	2	0	158
February	177	11	10	4	2	0	204
March	163	13	5	2	1	0	184
April	77	67	0	67	1	0	212
May	79	0	0	9	0	0	88
June	107	10	15	11	2	0	145
Total	1,343	120	101	123	23	33	1,743

Number of orders canceled.

Month issued.	Sanitary engineer division.	Health districts.					
		No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.							
July	7	0	6	4	0	0	17
August	3	0	0	1	0	0	4
September	7	0	0	0	0	0	7
October	2	0	0	4	0	0	6
November	9	8	0	0	3	0	20
December	29	0	0	1	2	0	32
1909.							
January	9	0	0	3	3	0	15
February	1	0	0	3	1	0	5
March	6	0	0	0	0	0	6
April	4	0	0	0	0	0	4
May	6	0	0	6	0	0	12
June	8	0	0	5	0	0	13
Total	91	8	6	27	9	0	141

Number of orders uncompleted.

Month issued.	Sanitary engineer division.	Health districts.					
		No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.							
July	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	8	0	0	0	0	0	8
1909.							
January	12	0	0	0	0	0	12
February	4	0	0	0	0	0	4
March	3	0	0	0	0	0	3
April	18	0	0	0	0	0	18
May	60	0	0	0	0	0	60
June	26	0	4	0	0	0	30
Total	131	0	4	0	0	0	135

Prosecutions for failure to comply with sanitary orders.

Month.	Number of prosecutions.	Amount of fines.
1908.		
July	1	₱20.00
August	1	10.00
September	6	60.00
October	1	20.00
November	36	296.00
December	7	51.00
1909.		
January	8	125.00
February	16	146.00
March	29	125.00
April	6	30.00
May	4	10.00
June	0	----------
Total	115	893.00

Plans for light and strong material buildings approved.

LIGHT MATERIALS.

Month.	Health districts.					
	No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.						
July	7	3	39	48	26	123
August	4	2	19	47	25	97
September	1	2	28	36	13	80
October	5	0	18	45	26	94
November	2	1	4	33	18	58
December	6	0	16	40	10	72
1909.						
January	9	0	31	67	32	139
February	3	0	33	35	25	96
March	0	0	31	65	35	131
April	0	0	37	42	51	130
May	0	0	38	78	58	174
June	2	1	20	43	29	95
Total	39	9	314	579	343	1,284

STRONG MATERIALS.

1908.						
July	2	7	1	3	2	15
August	3	4	3	2	0	17
September	4	5	8	10	3	30
October	2	10	5	4	2	23
November	3	7	1	2	2	15
December	3	6	1	0	0	10
1909.						
January	4	4	4	3	2	17
February	5	5	1	1	1	13
March	10	15	6	1	2	34
April	7	2	2	1	1	13
May	7	6	5	3	4	25
June	8	4	3	5	4	24
Total	63	75	40	35	23	236

New strong material buildings completed according to approved plans.

Month.	Health districts.					
	No. 1.	Nos. 2 & 3.	No. 4.	No. 5.	No. 6.	Total.
1908.						
July	2	2	1	2	0	7
August	2	5	0	2	0	9
September	0	3	3	0	1	7
October	2	2	3	2	0	9
November	2	4	1	4	0	11
December	1	6	2	3	2	14
1909.						
January	0	0	2	0	0	2
February	1	12	0	0	0	13
March	1	2	1	0	0	4
April	1	2	0	1	0	4
May	0	4	2	0	3	9
June	1	5	1	1	0	8
Total	13	47	16	15	6	97

STATISTICS FOR SAN LAZARO HOSPITALS DIVISION.

Report of sick.

Patients in hospital July 1, 1908	347
Patients admitted during the year	1,334
Patients discharged during year	765
Patients transferred during year	226
Patients escaped during year	6
Patients died during year	391
Patients remaining June 30, 1909	293

Average number of patients treated per day.

July, 1908	350	January, 1909	308
August, 1908	341	February, 1909	314
September, 1908	419	March, 1909	315
October, 1908	416	April, 1909	330
November, 1908	381	May, 1909	336
December, 1908	316	June, 1909	367

General average for the year, 349.41.

Average cost of subsistence per patient per day.

July, 1908	₱0.338	January, 1909	₱0.363
August, 1908	0.314	February, 1909	0.363
September, 1908	0.342	March, 1909	0.340
October, 1908	0.378	April, 1909	0.295
November, 1908	0.383	May, 1909	0.299
December, 1908	0.408	June, 1909	0.274

General average for the year, ₱0.341.

REPORT OF SAN LAZARO HOSPITALS.

Cholera department.

Month.	In hospital July 1, 1908.	Admitted.	Discharged not cholera.	Discharged cured.	Transferred not cured.	Died.	Remaining.
1908.							
July	2	13	8	1		2	4
August		21	8	4		12	6
September		340	31	57	18	156	84
October		169	28	129		63	33
November		57	13	50		23	4
December		12	1	9		5	1
1909.							
January		4	2	1			2
February		3	2	2		1	
May		5	3			2	
June		4	3				1
Total	2	628	94	253	18	264	1

NOTE.—The two cases that died in May and the one case remaining in June diagnosed "not cholera."

Patients from the provinces, and suspicious patients are included. This table is the corrected report and supersedes all others.

Cholera department, by race.

Race.	In hospital July 1, 1908.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans			24	4	20	2	4	2		
Filipinos	2		334	236	195	126	140	110	1	
Chinese			6		3		3			
Others			16	8	12	7	4	1		
Total	2		380	248	230	135	151	113	1	

Insane department.

Status.	Americans, male.	Europeans, male.	Filipinos.		Chinese, male.	Others, male.	Total.
			Male.	Female.			
In hospital at last report	1	2	97	20	3	2	125
Admitted	7	1	37	5		1	51
Discharged	6	1	10	4		2	23
Died			11	5	1		17
Remaining	2	2	113	16	2	1	136

Insane department, by race.

Race.	In hospital July 1, 1908.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	1		7		6				2	
Europeans	2		1		1				2	
Filipinos	97	20	37	5	10	4	11	5	113	16
Chinese	3						1		2	
Others	2		1		2				1	
Total	105	20	46	5	19	4	12	5	120	16

Leper department.

Status.	Europeans, male.	Filipinos.		Chinese, male.	Others, male.	Total.
		Male.	Female.			
In hospital at last report		115	75	2		192
Admitted	1	161	94	18	1	275
Discharged		15	16	13		44
Transferred to Culion		133	75			208
Escaped		5	1			6
Died	1	29	22	2		54
Remaining		94	55	5	1	155

Leper department, by race.

Race.	In hospital July 1, 1908.		Admitted.		Discharged.		Transferred to Culion.		Escaped.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Europeans			1								1			
Filipinos	115	75	161	94	15	16	133	75	5	1	29	22	94	55
Chinese	2		18		13						2		5	
Others			1										1	
Total	117	75	181	94	28	16	133	75	5	1	32	22	100	55

Smallpox department.

Month.	In hospital July 1, 1908.	Admitted.	Discharged not smallpox.	Discharged cured.	Died.	Remaining.
1908.						
July	7	48		36	11	8
August		16		11	4	9
September		21		15	9	6
October		18		8	2	14
November		2		13	1	2
December		9		8	2	1
1909.						
January		8	2		5	2
February		16		8	1	9
March		30		23	7	9
April		59		52	4	12
May		13		19	4	2
June		3		3	1	1
Total	7	243	2	196	51	1

Smallpox department, by race.

Race.	In hospital July 1, 1908.		Admitted.		Discharged.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans			8	6	5	6	3			
Europeans			4	3	4	3				
Filipinos	2	5	125	79	101	62	25	22	1	
Chinese			2		2					
Others			9	7	9	6		1		
Total	2	5	148	95	121	77	28	23	1	

Opium habit department.

Month.	In hospital July 1, 1908.	Admitted.	Discharged.	Died.	Remaining.
1908.					
July	21	33	38		16
August		15	24		7
September		14	21		
October		3			3
November		6	2		7
December		3	8		2
1909.					
January		5	2		5
February		24	17		12
March			12		
April		2	2		
May		1			1
June			1		
Total	21	106	127	0	0

Miscellaneous department.

Diseases.	In hospital July 1, 1908.	Admitted.	Discharged.	Died.	Remaining.
Diphtheria		11	9	2	
Measles		1	1		
Meningitis		1	1		
Tetanus		3		3	
Mumps		6	6		
Varicella		2	2		
Whooping cough		2	2		
Scarlet fever		2	[a]2		
Scabies		3	3		
Total	0	31	26	5	0

[a] One of these cases apparently scarlet fever; one case discharged not scarlet fever.

Morgue and crematory department.

Month.	Diphtheria.	Cholera.	Leprosy.	Suspected cholera.	Other causes.	Smallpox.	Total.
1908.							
July	1	12	4	1	13	19	50
August	1	47	4	2	8	9	71
September		403	5		5	10	423
October		141	8		5	4	158
November	3	45	10		5	2	65
December	1	8	2		3	2	16
1909.							
January			4		7	8	19
February		1	4		6	1	12
March			2			7	9
April			2		6	4	12
May					9	4	13
June			9		6	1	16
Total	6	657	54	3	73	71	864

Autopsies held, 90; bodies cremated, 22; pauper burials, 560.

San Lazaro Morgue report.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	0	Other causes of death	59
Received:		Total	864
Cholera	657		
Suspected cholera	3		
Smallpox	71	Dropped:	
Leprosy	54	Buried by family	262
Tetanus	6	Buried by city	560
Typhoid fever	1	Buried by Bureau of Prisons	19
Diphtheria	6	Cremated	22
Stillborn	4	Donated to Manila High School	[a]1
Glanders	1	Remaining after the year	0
Measles	1		
Human bones	1	Total	864

[a] Lot of human bones.

Number of autopsies held, 90.

GENERAL RETURN OF BIRTHS AND DEATHS IN THE PRINCIPAL PROVINCES OF THE PHILIPPINE ISLANDS, DURING THE CALENDAR YEAR 1908.

	Abra.	Albay.	Ambos Camarines.	Bataan.	Batangas.	Bohol.	Bulacan.
Population	54,380	233,793	228,181	45,166	276,282	269,228	223,985
Births	1,963	11,862	9,656	2,083	15,742	11,414	11,316
Annual birth rate per 1,000	36.09	50.73	42.31	45.01	56.98	42.39	50.53
Deaths:							
From 0 to 1 year	244	3,010	999	575	3,010	1,444	3,162
From 1 to 2 years	84	918	267	226	918	354	816
From 2 to 10 years	207	1,204	592	368	1,204	548	1,717
From 10 to 20 years	95	323	344	77	323	232	373
From 20 to 60 years	481	1,686	1,378	398	1,686	998	2,155
Over 60 years	248	680	575	149	680	668	881
Unknown	26	2	44	0	2	117	8
Typhoid fever	30	25	1	36	77	68	170
Malarial fever	190	576	758	254	1,338	215	442
Malarial cachexia	85	98	40	75	188	19	44
Smallpox	0	12	0	207	32		478
Whooping cough	50	48	50	6	15	210	72
Cholera	154	0	0	26	0	40	877
Dysentery	38	113	114	74	728	97	516
Beriberi	0	7	74	5	50	7	217
Tuberculosis:							
Of lungs	88	460	556	91	629	247	915
Of other organs	13	52	39	7	204	78	158
Cerebral congestion and hemorrhage	0	27	5	10	15	10	68
Convulsions of children	64	727	507	297	1,301	27	2,716
Acute bronchitis	1	114	62	42	290	8	139
Diarrhea and enteritis:							
Under 2 years	1	112	31	22	183	37	52
Chronic	1	14	1	11	209	19	81
2 years and over	20	98	55	30	358	28	118
Violence	67	30	39	14	67	36	66
All other diseases	588	2,548	1,872	586	2,144	3,210	2,498
Total	1,385	5,061	4,199	1,798	7,823	4,356	9,112
Males	701	2,702	2,230	960	4,151	2,174	4,796
Females	684	2,359	1,969	838	3,672	2,182	4,316
Annual death rate per 1,000	25.46	22.50	18.40	39.69	28.39	16.17	40.68

	Cagayan.	Capiz.	Cavite.	Ilocos Norte.	Ilocos Sur.	Iloilo.	Isabela.
Population	147,930	226,299	134,779	198,195	189,279	400,037	68,793
Births	6,998	9,469	5,437	8,318	8,489	16,291	3,219
Annual birth rate per 1,000	47.30	41.84	40.33	41.96	44.84	40.72	46.79
Deaths:							
From 0 to 1 year	1,064	1,391	1,430	1,034	1,400	2,661	368
From 1 to 2 years	270	755	511	395	531	1,460	140
From 2 to 10 years	552	1,691	952	797	1,469	3,776	398
From 10 to 20 years	363	600	148	242	278	1,563	206
From 20 to 60 years	1,308	2,068	1,180	1,107	1,584	5,159	515
Over 60 years	558	780	487	754	640	1,196	226
Unknown	9	21	0	6	9	13	13
Typhoid fever	56	86	78	61	117	32	11
Malarial fever	539	689	545	734	465	1,160	327
Malarial cachexia	180	114	345	150	19	509	59
Smallpox	0	550	141	0	58	535	0
Whooping cough	57	166	8	21	18	49	18
Cholera	205	1,090	220	302	1,602	1,935	0
Dysentery	314	593	338	219	354	41	67
Beriberi	22	26	88	19	7	30	6
Tuberculosis:							
Of lungs	182	573	228	349	414	1,201	195
Of other organs	37	41	37	65	15	214	11
Cerebral congestion and hemorrhage	6	9	39	6	23	61	8
Convulsions of children	525	312	1,020	331	168	1,491	181
Acute bronchitis	23	32	76	34	48	134	6
Diarrhea and enteritis:							
Under 2 years	37	79	137	94	141	178	33
Chronic	23	68	91	81	42	119	23
2 years and over	40	93	159	166	161	348	30
Violence	38	168	30	49	56	57	16
All other diseases	1,831	2,617	1,178	1,654	2,203	7,784	880
Total	4,115	7,306	4,708	4,335	5,911	15,828	1,866
Males	2,178	3,660	2,504	2,250	3,055	8,171	993
Females	1,937	3,646	2,204	2,085	2,856	7,657	873
Annual death rate per 1,000	27.81	32.28	34.18	21.87	31.22	39.56	27.12

	Laguna.	Negros Occidental.	Negros Oriental.	Pampanga.	Pangasinan.	Rizal.	Romblon.
Population	148,606	304,668	194,862	225,113	486,084	148,502	54,582
Births	7,529	10,865	7,842	12,026	23,828	8,814	2,018
Annual birth rate per 1,000	50.66	35.99	40.24	53.42	54.64	56.25	37.00
Death:							
From 0 to 1 year	1,949	2,224	1,395	2,950	5,096	2,930	290
From 1 to 2 years	526	1,089	391	728	2,707	864	92
From 2 to 10 years	947	2,792	529	1,130	6,437	1,821	175
From 10 to 20 years	268	1,015	222	247	1,230	328	90
From 20 to 60 years	1,576	3,916	1,007	1,467	5,340	1,820	317
Over 60 years	586	868	368	763	1,953	798	129
Unknown	17	53	6	5	15	30	17
Typhoid fever	66	10	8	191	262	116	22
Malarial fever	726	1,099	665	884	2,185	463	126
Malarial cachexia	189	591	9	225	216	147	24
Smallpox	111	139	23	95	4,043	679	0
Whooping cough	26	41	157	21	122	7	3
Cholera	120	2,718	2	228	4,562	656	0
Dysentery	440	894	369	361	834	768	47
Beriberi	34	83	48	48	32	245	14
Tuberculosis:							
Of lungs	688	1,082	183	725	1,487	386	83
Of other organs	99	24	229	44	162	138	2
Cerebral congestion and hemorrhage	20	15	8	30	35	76	15
Convulsions of children	1,024	1,150	237	1,864	281	1,410	134
Acute bronchitis	97	53	28	160	146	284	8
Diarrhea and enteritis:							
Under 2 years	114	141	110	107	89	109	7
Chronic	107	19	42	41	77	67	15
2 years and over	182	209	103	56	351	163	5
Violence	56	48	32	53	123	49	25
All other diseases	1,770	3,591	1,665	1,572	7,821	2,828	580
Total	5,869	11,907	3,918	7,290	22,778	8,591	1,110
Males	3,035	6,241	2,052	3,876	11,702	4,494	597
Females	2,834	5,666	1,866	3,414	11,076	4,097	513
Annual death rate per 1,000	39.49	39.09	20.10	32.38	52.28	57.85	20.35

	Sorsogon.	Tarlac.	Tayabas.	Union.	Zambales.
Population	120,454	139,971	201,936	175,655	52,972
Births	6,087	7,494	8,593	6,558	2,834
Annual birth rate per 1,000	50.53	53.06	42.58	53.97	53.49
Deaths:					
From 0 to 1 year	760	1,659	1,485	1,071	462
From 1 to 2 years	225	752	308	647	213
From 2 to 10 years	351	1,609	649	1,696	426
From 10 to 20 years	185	252	347	420	102
From 20 to 60 years	674	1,128	1,775	1,447	549
Over 60 years	393	478	650	559	133
Unknown	2	4	9	16	38
Typhoid fever	6	102	103	220	19
Malarial fever	266	588	620	468	183
Malarial cachexia	11	320	400	106	55
Smallpox		604	17	22	111
Whooping cough	9	29	20	144	3
Cholera		358	1	1,493	192
Dysentery	54	365	184	647	172
Beriberi	35	37	81	27	16
Tuberculosis:					
Of lungs	278	465	774	181	240
Of other organs	88	48	90	88	17
Cerebral congestion and hemorrhage	6	8	57	13	4
Convulsions of children	460	833	434	638	222
Acute bronchitis	61	53	111	109	14
Diarrhea and enteritis:					
Under 2 years	14	29	58	47	15
Chronic	4	21	12	76	18
2 years and over	13	26	40	212	49
Violence	16	38	39	67	22
All other diseases	1,819	1,958	2,232	1,803	571
Total	2,590	5,882	5,223	5,856	1,918
Males	1,370	3,167	2,692	2,995	967
Females	1,220	2,715	2,531	2,861	961
Annual death rate per 1,000	21.50	42.02	25.86	46.60	36.56

STATEMENT OF EXPENDITURES.

The following statement shows the expenditures made during the fiscal year 1909 chargeable against the appropriation made by Act No. 1873 for the Bureau of Health during that period:

Amount appropriated		₱1,300,000.00
Amount carried from prior fiscal year allowed by the Insular Auditor		33,277.87
Total		1,333,277.87
Expenses chargeable as follows:		
General:		
Salaries and wages	₱138,191.17	
Miscellaneous, property division	4,530.00	
Stationary and office supplies	3,605.27	
Printing and binding	10,083.81	
Periodicals	91.02	
Rent post-office box	32.00	
Postage and telegrams	3,068.52	
Cablegrams	235.57	
Rent telephones	1,241.48	
New furniture	1,422.09	
Repairs	1,009.25	
Incidentals	4,640.36	
Transportation, city of Manila	23,442.70	
Commutation and traveling expenses from and to United States	22,470.16	
Traveling expenses, employees	8,324.58	
Transportation of freight	1,013.01	
Medicine, Central Free Dispensary	3,034.88	
Incidentals, Central Free Dispensary	884.94	
Medicines and medical supplies, indigent persons	6,981.78	
Rent, sanitary station	240.00	
Light, sanitary station	37.35	
Incidental, sanitary station	296.03	
Disinfectants and apparatus	10,539.44	
Asilo de San Vicente de Paul	1,449.00	
Hospicio de San Jose	44,372.10	
Colegio de Santa Isabel	3,624.40	
Board of Medical Examiners	786.16	
Total		295,647.07
Emergency fund:		
General and cholera, city of Manila		188,163.21
Inspection division:		
Salaries and wages	106,177.29	
Serum, antiplague	33.00	
Sera, miscellaneous	180.75	
Photographs	211.35	
Traveling expenses, district health officers and medical inspectors	12,063.74	
Total		118,666.13

STATEMENT OF EXPENDITURES—Continued.

Prison sanitation division:		
Salaries and wages	₱6,981.65	
Disinfectants	682.45	
Medicines, medical and surgical supplies	4,524.54	
Total		₱12,188.64
Baguio Hospital division:		
Salaries and wages	8,501.96	
Subsistence supplies	6,431.75	
Medical and surgical supplies	1,150.14	
Hospital equipment	3,949.89	
Laundry	521.07	
Fuel	738.80	
Incidentals	10,427.64	
Freight	650.09	
Total		32,371.34
Culion leper colony:		
Salaries and wages	23,397.88	
Subsistence	90,867.26	
Equipment, kitchen	340.79	
Equipment, hospital	568.50	
Bedding, towels, lepers	1,712.67	
Clothing	2,077.66	
Disinfectants	14,25	
Medicines and medical supplies	7,006.06	
Stationary and office supplies	13.28	
Fuel	764.22	
Gratuity, lepers	11,173.60	
Constructions	21,244.16	
Freight	3,218.48	
Collection of lepers	24,740.43	
Incidentals	8,662.06	
Total		195,801.30
Vaccination division:		
Salaries and wages	40,844.68	
Antiseptic supplies and dressings	6,697.60	
Vaccine virus	26,375.00	
Ice for virus	308.84	
Traveling expenses, vaccinators	2,374.70	
Total		76,600.82
San Lazaro Hospitals division:		
Salaries and wages	37,718.67	
Subsistence supplies	54,019.82	
Medicines	3,219.38	
New furniture	1,670.95	
Clothing, insane	214.29	
Clothing, lepers	454.19	
Towels	621.04	
Gratuity to lepers	1,748.86	
Bedding	4,088.59	
Soap	1,080.12	

STATEMENT OF EXPENDITURES—Continued.

San Lazaro Hospital division—Continued.		
Fuel	₱3,188.51	
Cigarrettes, tobacco, etc	52.00	
Telephone rent	242.87	
Lights	4,447.50	
Transportation	260.60	
Shoeing and forage	608.91	
Incidentals	7,557.61	
Total		₱121,193.91
Civil Hospital division:		
Salaries and wages	56,156.68	
Subsistence	41,351.63	
Rent buildings	10,470.00	
Rent telephones	312.00	
Lights	4,913.70	
Repairs	590.00	
Coal and oil	1,310.80	
Medicines, medical and surgical supplies	11,642.67	
Miscellaneous supplies	13,606.81	
Laundry	4,620.24	
Forage and horseshoeing	100.70	
Extra transportaion	1,455.84	
Incidentals	145.55	
Total		146,676.62
Amount expended for prior fiscal year's obligations as per Auditor's entries		28,249.17
Difference as per Auditor's books, change of charges between different fiscal years		2,864.57
Expenditures during fiscal year 1909		1,218,422.78

In addition to the foregoing statement of actual expenditures during the fiscal year, 1909, there are obligations outstanding in the sum of ₱195,000.

The following amounts as receipts were collected during the fiscal year:

Cashier, Bureau of Health	₱52,404.44
Superintendent and cashier, Civil Hospital	20,093.41
Superintendent and cashier, Baguio Hospital	6,471.88
Inter-Bureau vouchers, Board of Dental, Medical and Pharmaceutical Examiners, credits by journal entries, Bureau of Audits	29,395.34
Total	108,370.07

From the amount collected during the fiscal year 1909, the amount of ₱28,905.53 was credit to appropriation and the balance ₱79,464.54 was receipt from operation.

Total available at the beginning of the fiscal year 1909	₱1,333,277.87
Expenditures during the fiscal year	1,218,422.78
Credits to appropriation	28,905.53
Net expenditures during the year	1,189,517.25
Outstanding liabilities	195,000.00
Receipts from operation	79,464,54
Balance available	28,225.16

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A CONGESTED SECTION WITHOUT STREETS.

AN ALLEY IN SAN LAZARO ESTATE WITH NEW DRAINAGE SYSTEM.

THE CLASS OF HOUSES THE BUREAU OF HEALTH IS ATTEMPTING TO HAVE REMOVED.

ANOTHER EXAMPLE OF THE CLASS OF HOUSES THE BUREAU OF HEALTH IS ATTEMPTING TO HAVE REMOVED.

AN UNDRAINED INSANITARY STREET IN SAN LAZARO ESTATE.

STREET IN SAN LAZARO ESTATE WITH NEW DRAINAGE SYSTEM.

DRAINING SAN LAZARO ESTATE.

DRAINING SAN LAZARO ESTATE.

THE STORAGE BASIN OF THE NEW WATER SUPPLY.

GATE HOUSE OF NEW RESERVOIR.

CENTRAL PUMPING STATION OF NEW SEWER SYSTEM, TONDO BEACH—EXTERIOR VIEW.

CENTRAL PUMPING STATION OF NEW SEWER SYSTEM, TONDO BEACH—INTERIOR VIEW.

HOOKWORM CAMPAIGN HEADQUARTERS, LAS PIÑAS, RIZAL.

LABORATORY AT HOOKWORM CAMPAIGN HEADQUARTERS, LAS PIÑAS, RIZAL.

HOOKWORM CAMPAIGN, LAS PIÑAS, RIZAL—FREE DISPENSARY.

UNDRAINED INSANITARY GROUND.

NEW RAT-PROOF WHARF CONSTRUCTION.

(Note iron flashing which effectually prevents rats from coming ashore.)

NEW RAT-PROOF WHARF CONSTRUCTION.

(Note iron drop gates. One raised to permit passage of traffic.)

NEW PHILIPPINE GENERAL HOSPITAL IN PROCESS OF CONSTRUCTION.

SANITARY INSPECTOR, BURUEAU OF HEALTH, WITH MOTOR CYCLE.

FILIPINA PUPIL NURSES.

ANNUAL REPORT OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS

FROM JULY 1, 1909, TO JUNE 30, 1910

VICTOR G. HEISER, M. D.
DIRECTOR OF HEALTH
PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

MANILA
BUREAU OF PRINTING
1910

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ANNUAL REPORT OF THE BUREAU OF HEALTH.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, August 10, 1910.

SIR: I have the honor to submit the eleventh report of the Bureau of Health for the Philippine Islands, covering the period from July 1, 1909, to June 30, 1910.

GENERAL CONSIDERATIONS.

The work of the Bureau of Health for the past year has been characterized by expansion into new and broader fields, as well as by a gratifying advance along routine lines.

Among the new projects, is the establishment of hospitals of modern construction where there have been no hospitals of any kind heretofore. The Philippine General Hospital is almost completed and the equipment has already been secured. A reinforced-concrete hospital at Culion was finished and is now occupied; plans have been drawn, land secured, and work virtually commenced on the long-needed Southern Islands Hospital at Cebu; similar progress has been made toward one at Bontoc; a new dangerous communicable disease hospital and a modern steam laundry are actually under construction at San Lazaro; plans are in progress for a sanitarium at Sibul Springs; a tuberculosis camp is nearly ready for occupancy on the outskirts of Manila; and funds are available for hospitals at Tuguegarao, Butuan, and elsewhere.

In the work of health education a training school for male nurses has been established; the training school for female nurses heretofore under the Bureau of Education has been transferred to the Bureau of Health and its scope enlarged so as to embrace public instruction in the form of lectures, in the native dialects, on hygiene, sanitation, and elementary nursing; tuberculosis, beriberi, cholera, and other preventable diseases; care and feeding of infants, proper preparation of native foods, and other allied questions.

The issuance of a "Simple Remedies" Manual in five languages has been a laborious but gratifying feature of the year.

By an enormous expenditure of time, effort, and money, cholera has been held in check; smallpox has been further reduced by the continuation of vaccination; beriberi has been eliminated from Culion, and rice

regulations enforced which it is hoped will exterminate it from the Islands, in time; the segregation of all known cases of leprosy has been successfully accomplished except in the Moro Province and the incidence of the disease has markedly decreased as a result. The fight against tuberculosis has been actively begun.

Food inspections have been continued with noticeable improvements in food stuffs; the markets of Manila now compare favorably with model markets elsewhere; many satisfactory provincial markets have been actually constructed and others projected.

The sanitary barrio idea is in effect in the city of Manila and much lowland has been drained and made available from a sanitary standpoint. Definite steps have been taken toward a nonpathogenic water supply for Manila.

On the whole it is believed that there is reason to feel encouraged over the general outlook, particularly in the establishment of hospitals and the work of health instruction which has thus far been seriously hampered by the work of combating preventable diseases throughout the Islands.

SCOPE OF BUREAU.

The scope of duties of the Bureau of Health for the Philippine Islands is far more extensive than is implied in its title and not only includes those responsibilities usually imposed on health organizations in the United States, such as the collection and compilation of vital statistics and the protection of the public from dangerous communicable diseases by practical and educational methods, but embraces the distribution of public charities, the care of the insane, the care of the orphans and the care of the aged, and the administration of general and special hospitals and the hygienic and medical care of all civil employees. Physicians of the Bureau of Health make all physical examinations for entrance into the public services and certify their findings to the Civil Service Bureau.

The Bureau is, in effect, the medical department of the Philippine Government and administers all official matters pertaining to the public health. It has sanitary supervision over factories, farms, and ships and in fact either by protest or advice it comes in contact with most of the projects and activities of the Archipelago. Thus it is one of the largest and most important Bureaus of the Government and like the health service of Panama is a powerful factor in determining and promoting the success of the American occupation of the Philippines, for no prosperity could be worthy of the name without the blessings of public health.

Each succeeding year brings increased responsibilities and additional duties to this Bureau but with multiplying facilities, especially with regard to transportation and road improvements, the task is made easier and far more pleasant.

THE MANILA WATER SUPPLY.

The Municipal Board has received many complaints during the past year on account of the character of the water which is supplied by the city mains. The public apparently feels that after the expenditure of over ₱4,000,000 the water coming from the city mains should leave little to be desired.

The Municipal Board has requested this office to aid in finding a remedy for the conditions complained of and the matter has been given considerable study but no satisfactory solution has as yet been reached. At first sight it would seem that nothing more is needed than a good filtration system, and the new storage basin designed by the chief engineer of the sewer and waterworks construction provides for the installation of filtration beds. The question is complicated here, however, by the fact that no filter of sufficient capacity has yet been found to filter the city water supply which will remove the amœbæ, consequently there arises not only the necessity of adopting a filtration plant which will do all that is required of a plant in the United States, but it will be necessary to eliminate the amœbæ in addition, because if only the ordinary filtration plant were installed that reduces the number of bacteria the water would still have to be sterilized before it was safe for drinking purposes. Experiments are constantly being made with the view of discovering a filter or other means by which amœbæ can be removed. The hypochlorite method as used by Dr. J. L. Leal for the Jersey City Water Supply Company of Boonton, New Jersey, is being tested by the Bureau of Science in order to ascertain its effect upon amœbæ.

This question is now being so largely studied in the United States and so many new methods are constantly being tried that it would seem advisable to make haste slowly with regard to adopting a filtration system.

FRESH MEAT SUPPLY OF MANILA.

During the year a new factor has entered the field to furnish the meat supply of Manila which has had a tendency to reduce the cost of this necessary commodity. Chilled meat is now being imported from Hongkong which is sold in the local markets in competition with the meat of locally slaughtered cattle. Some fear was expressed that this meat might come from diseased cattle and that adequate assurance should be had that the same has a proper ante-mortem inspection. By arrangements with the officers of the Public Health and Marine-Hospital Service reliable certificates to this effect are now assured and with the regular daily inspection which takes place in the markets of Manila the public may feel secure that a wholesome meat supply will be available. The city ordinances provide that fresh meat can be sold in the public markets only and the same rule will be applied to chilled meat so that the control of its sale will be a simple matter.

DEPARTMENT OF SANITATION AND TRANSPORTATION.

Owing to the new dumping stations provided in connection with the new sewer system the work of collecting the night soil and other excreta in the city of Manila has been rendered very much less objectionable and more efficient. Two of these stations have now been established, one near the central dumping station in Tondo and one near the Calle Herran pumping station. This latter is only a temporary site and the Municipal Board has agreed to remove the same at an early date to a neighborhood where it will be less objectionable.

GARBAGE RECEPTACLES.

A number of conferences have taken place during the past year with a view of ascertaining whether a garbage receptacle with a well-fitting lid could not be supplied to householders instead of permitting them to use the insanitary oil cans, boxes, and other things which are unsuitable for this purpose. The introduction of galvanized-iron receptacles has been tried a number of times but they have been so promptly stolen, in spite of the vigilant efforts of the police department, that considerable leniency has been shown in the enforcement of this ordinance.

Mr. John C. Mehan, chief of the department of sanitation and transportation, now has a type of receptacle of such design that identification will be simple so that loss by theft can be better prevented.

PLANTING OF TREES.

In view of the great desirability of providing shade and more particularly of making the new sanitary barrios attractive, arrangements have been made with the department of sanitation and transportation of the city of Manila to plant trees on all streets of these sanitary barrios.

STREET CLEANING.

The work of street cleaning is performed by the street-cleaning division of the department of sanitation and transportation and does not come within the duties of this Bureau, but its influence on the public health is such as to require mention in a report of this character. During the year the city has been visited by at least 2,000 tourists, 1,500 of whom were members of the two Clark parties. One of the first things noted by these observing travelers was the cleanly condition of the streets in comparison with other oriental cities and with many American cities. The question of substituting street flushing for street cleaning is still under consideration.

The condition of the streets of Manila would reflect credit on any city of equal size, anywhere, notwithstanding certain local conditions which make it more difficult to preserve cleanliness.

DISINFECTION.

The disinfecting service, thoroughly organized, is under the supervision of a former employee of the United States Public Health and Marine-Hospital Service.

This service not only disinfects houses in which dangerous communicable diseases have occurred, but all insanitary localities, such as drains, cesspools, latrines, and other foul places. It also disinfects stables in which have occurred cases of surra, glanders, rinderpest, foot-and-mouth disease, and other dangerous communicable veterinary affections. The steam-disinfecting plant at San Lazaro Hospital is used for the disinfection of clothing and bedding from the hospital and for such other articles in large quantities as can be safely and conveniently transported to the plant.

LOW DEATH RATE AMONG GOVERNMENT EMPLOYEES.

The death rate among Government employees for the year just closed is 5.82 per thousand. Even when a reasonable allowance is made for the lack of very old people and young children among such employees, and due consideration is given to the fact that this class of residents are for the most part preferred risks as it were, it will be found that the death rate is still lower than that of the civilian population of any other tropical country and there is every indication that if the simple, essential rules of hygiene were more closely observed, a smaller death rate would obtain.

LIFE INSURANCE RATES.

Heretofore the residents of the Philippine Islands who desired to take out life insurance were placed at a great financial disadvantage because many of the insurance companies charged higher rates for risks in the Tropics than in the United States or other temperate countries.

The vital statistics which have been compiled by the Bureau of Health during the past ten years have shown conclusively that the expectancy of life in the Philippines among those who would ordinarily take out life insurance is as good and perhaps even better than in the Temperate Zone. The publishing in the United States of the low mortality rates prevailing among the Philippine Government employees no doubt had much to do in drawing attention to this matter with the result that many companies now write insurance upon the same terms as elsewhere and others will no doubt soon follow.

DISTILLED WATER AND ICE.

The employees of the Insular Government and of the city of Manila are furnished with distilled water at a nominal charge. The water is taken from an artesian well 700 feet deep, after which it is distilled. Every precaution is taken to secure purity.

Service is made in any quantity desired either by measurement or in bottles which may be kept on ice.

There is also a private firm handling distilled water and serving the same in convenient-sized bottles. This firm has carried out every regulation of the Bureau of Health and the water supplied by them is safe.

PUBLIC BATH HOUSES AND LAUNDRIES.

In nearly every annual report of this Bureau since its organization the subject of the public bath houses and laundries has been discussed. There are two public bath houses and laundries under construction and it is hoped that the coming year will witness the beginning of a greater movement in this direction.

During epidemics of cholera, the frequency of the disease among laundresses and among others whose occupations bring them into contact with polluted water of the esteros and rivers is conclusive evidence that such places are a source of infection.

The recommendation is renewed that there be established a sufficient number of free public laundries in the city of Manila to meet the necessity, and that washing in the esteros and river be prohibited by the police. It is also recommended that free public bath houses be established and river and estero bathing be also stopped by police regulations.

PHARMACIES.

Four free municipal pharmacies are wholly maintained by this Bureau and supply medicines to the indigent population of the city upon prescriptions of municipal and other physicians. These dispensaries are located at San Lazaro Hospital, Philippine Medical School Clinic at St. Paul's Hospital, the Civil Hospital, and the central office. There are also free dispensaries which are partly maintained by this Bureau at the University Hospital, the Mary J. Johnston Memorial Hospital, and the San Juan de Dios Hospital.

A Chinese municipal physician is employed for the Chinese. His prescriptions are filled at any of the Bureau of Health dispensaries.

The Central Dispensary alone filled 25,272 prescriptions during the fiscal year.

PHILIPPINE GENERAL HOSPITAL.

The work of constructing the Philippine General Hospital has not yet been completed and a number of months must necessarily elapse before the buildings can be occupied. The equipment for the same has practically all arrived and will be ready to put into place as soon as the structural work is finished.

The last Legislature passed a law which made the Philippine General Hospital a division of the Bureau of Health and abolished the Civil Hospital as such, as soon as the Philippine General Hospital is opened; and authorized the Director of Health to request the services of any

medical officer or employee in the Government service for duty in the hospital without additional compensation.

The hospital is one of the largest undertakings assumed by the Insular Government and is of so much importance that a complete description of it will be issued by this Bureau in pamphlet form and included with the next annual report.

HEALTH STATIONS IN MANILA.

The city of Manila is divided into five health districts the boundaries of which correspond to the five police precincts. Three of the health stations are quartered in the same buildings with police stations, one is at the central office, and one occupies a rented building. Each station has a force consisting of a medical inspector, one or more American sanitary inspectors, and a full corps of assistant sanitary inspectors. Attached to each health station there are one or more municipal physicians and midwives, the larger stations having two municipal physicians and two midwives, and the smaller stations but one of each.

Disinfectors are located at the central office (Station J) and at Meisic station (Station A).

Definite instructions relative to district health work have been issued covering all emergencies, so that the stations are able to meet any condition that may arise, without the delay that would necessarily be caused by the intervention of the central office.

MUNICIPAL SANITATION IN MANILA.

In the last annual report a résumé was given of a paper read before the Manila Medical Society under this heading, by Dr. A. J. McLaughlin, Assistant Director of Health. Among the subjects treated was the sanitary barrio or village, concerning which the following extract is submitted:

> The development of the idea of the sanitary barrio is largely the result of an effort to provide healthful building sites for that large proportion of the Philippine population, which from poverty or other reasons is compelled or chooses to live in typical nipa palm leaf houses common to the Islands.
>
> These houses, built entirely of nipa and bamboo and costing often less than ₱50 to build, are as a general rule unprovided with plumbing or drainage facilities of any sort, and have been the common type of house construction in the Philippines as well as in many oriental and tropical countries for many centuries. The floor of the house is about 1½ meters above the ground level. Waste water is discharged through slat floors directly upon the ground underneath the house where various domestic animals such as pigs and chickens form the scavengers. As a rule the house were built in small groups or barrios (villages) without reference to street lines or other avenues of approach.

This old system, in spite of its insanitary features has been more or less adhered to and tolerated in outlying sections and the interior of large blocks for generations. While considerable study had been given

to the subject for many years past, it was not until the cholera outbreak of 1908 that a policy tending radically to change conditions then existing was outlined, and which has now through the efforts of the Bureau of Health been definitely adopted by the municipal authorities.

Sanitary barrios, as now being built, consist of a system of permanent street lines or city blocks laid out on the regular street plans of the municipality. These blocks are then divided into house lots. Every lot must face either on a street or an alleyway and only one house is permitted on a lot. The drainage instead of being collected in sinks and other plumbing fixtures and passed through the plumbing system to the street sewer as is customary in houses of strong material, is allowed to pass through the slat floor of the house to the ground surface, where it is caught in an open cement-lined apron, inclined toward a small cement-lined open canal which may be easily swept out and cleaned, and from this carried off the premises into larger street canals, also cement-lined and open for inspection and cleaning purposes, as well as for the purpose of permitting the purifying action of the sun and daylight to take place.

Another reason which has caused the development of the sanitary barrio by the Bureau of Health has been the low street mileage in proportion to the population. The table given shows the number of miles of street in the larger cities of the United States, and for Manila.

In this connection it should be remembered that the houses of Manila are, for the most part, open and admit the air freely thus supplying the offsetting factor of extra ventilation.

City.	Population.	Miles of streets.	Population to each mile of street.
Manila	234,409	95	2,467
Chicago	1,099,776	2,048	537
Philadelphia	1,047,410	1,151	910
New York and Brooklyn	2,321,580	1,228	1,890
St. Louis	450,925	1,061	425
Boston	448,892	408	1,099
Baltimore	434,460	780	557
Washington, D. C.	192,805	235	868
Los Angeles	50,400	800	63
New Orleans	241,878	625	387

From the above it will be seen that Manila has a population per mile of street largely in excess of any American city not even excepting New York which is notorious for its congested population and where residences, tenements, etc., are from five to ten stories in height. With these congested conditions, the Bureau found it useless to try to correct conditions until it had more ground on which to put ejected occupants of insanitary houses, as no improvement of conditions could be obtained by driving people out of one neighborhood only to have them drift into a worse one.

The San Lazaro Estate, owned by the Insular Government and administered by the Bureau of Lands, is now about completed as a sanitary barrio.

Begun in October, 1908, with an experimental appropriation of ₱5,000, the work has recently been completed at a total expenditure of ₱34,117.82. Forty-five blocks consisting of a total of 1,648 lots, with provisions for a population of 13,184 are in operation, street canals carrying house drainage, and public midden sheds caring for human excrement.

The complete status of sanitary barrio work on July 1, 1910, was as follows:

Location.	Number of blocks.	Number of lots and houses. (uninhabited lots excluded).	Population. (estimated at 8 to a house).	Remarks.
San Lazaro Estate:				
Government portion	45	1,648	13,184	Completed.
Church portion	33	1,241	9,928	Plans completed and work in progress. Will be finished about Dec. 31, 1910.
Legardo Estate	9	432	3,456	Plans completed and work in progress. To be completed about Sept. 1, 1910.
Vito Cruz	4	192	1,536	Land offered and plans in course of preparation.
Total	91	3,513	28,104	

In this way, the congested surplus population can be gradually cared for, the street mileage increased, and conditions in general improved.

It may be added that a fund of nearly ₱207,000 has only recently been made available for this purpose. Until this fund could be used, no work could be prosecuted. The results shown, therefore, with the exception of the drainage work of 1908, have been accomplished in the past two months, and in spite of the rainy season, which began about the 1st of June.

The ordinance making this fund available was passed April 18, 1910, and is as follows:

[Ordinance No. 188.]

AN ORDINANCE MAKING APPROPRIATION OF FUNDS FOR EXPENDITURE IN MAKING SANITARY IMPROVEMENTS IN THE CITY OF MANILA.

Be it ordained by the Municipal Board of the city of Manila, that:

Section 1. The sum of two hundred and six thousand seven hundred eighty-four pesos and seventy-seven centavos, credited to the city of Manila in accordance with the provisions of Act Numbered Seventeen hundred and fifty is hereby appropriated out of such funds of the city of Manila and made available for expenditure for making sanitary improvements in the city of Manila, in accordance with the general scheme outlined by the Director of Health and the city engineer, as approved by the Municipal Board January third, nineteen hundred and ten, and by the Governor-General January twenty-first, nineteen hundred and ten, as appears from the records on file in the office of the secretary, Municipal Board.

Interior and indiscriminate barrio construction has now been definitely discontinued by an ordinance of the Municipal Board passed at the request of the Bureau of Health. From the date of the passage of the ordinance all new houses must abut on some form of street, either public or private. The ordinance reads as follows:

[Ordinance No. 124.]

AN ORDINANCE AMENDING SECTION ONE HUNDRED AND SEVEN OF THE REVISED ORDINANCES OF MANILA ENACTED JUNE THIRTEENTH, NINETEEN HUNDRED AND EIGHT, RELATING TO THE ISSUANCE OF PERMITS FOR THE ERECTION OF THE BUILDINGS.

Be it resolved by the Municipal Board of the city of Manila that:

Section 1. Section one hundred and seven of the Revised Ordinances of Manila is hereby amended to read as follows:

"SEC. 107. *Issuance of permits.*—When the application, plans, and specifications, conform, to the requirements of the title and of title eleven hereof, the engineer shall issue a permit for the erection of the building and shall approve such plans and specifications in writing: *Provided*, That the building shall about or face upon a public street or alley or on a private street or alley which has been officially approved. One copy of all approved plans and specifications shall be returned to the owner or his agent, and one copy shall be retained by the engineer."

TENEMENT AND LODGING HOUSES.

Owing to the fact that many of the more thickly populated sections of the city are becoming more and more overcrowded, and that many of the tenement and lodging houses harbor more people than are permitted by the municipal ordinances, and since the propagation of tuberculosis and other diseases is greatly favored thereby, an active campaign to relieve this condition of affairs was commenced during the year; and, as was to be expected, active opposition was immediately encountered. This opposition in most instances seemed to be due to the fact that a reduction in the incomes of the landlords was apprehended. Many legal technicalities have been placed in the way of the Bureau, and until these obstructions are removed the work must necessarily proceed slowly.

MUNICIPAL HEALTH SERVICE IN THE PROVINCES.

Much additional evidence has become available showing the inherent weakness of the municipal health service and the unsatisfactory results that are obtained in the majority of instances. In some municipalities excellent results are obtained when everything is favorable, but it must be frankly admitted that the service in the vast majority of municipalities is not all that could be desired.

In order to remedy this condition a new plan has been tried in Pampanga Province which so far has met with considerable success and is a great improvement. Through the activity of the treasurer of

Pampanga Province and the members of the provincial board, Pampanga has been divided into six sanitary districts, each of these is placed in charge of a licentiate of medicine and under him is placed a sanitary inspector for each municipality in his district, there being twenty municipalities in the province. Each municipality contributes a certain sum of money equal to 10 per cent of the taxes collected, which in the case of the municipalities of Pampanga amounted to about ₱16,000. The province contributed ₱8,000, making a total of about ₱24,000. This money was placed in the provincial treasury and is disbursed under the approval of the provincial board. The province agrees to furnish all the medical service that will be required by the several districts. The appropriation both by the municipalities and the province is on a basis of 10 per cent of the taxes collected. The keystone of the plan is that the entire health service shall be under central control and that the entire force may be utilized at points which are threatened with infection. If one town were actually suffering with cholera it would be obviously more advantageous for the remaining municipalities to concentrate their forces upon exterminating the disease in that town rather than to take measures to combat it when it appeared in their municipalities. Instead of each municipality keeping a large stock of disinfectants and other epidemic supplies on hand these are all concentrated in a central storeroom and can be quickly used wherever they may be needed. On the whole this plan has worked very well with the exception that some of the municipalities believing that they did not receive an adequate return for their money threatened to withdraw. This caused considerable embarrassment and nearly upset the whole scheme.

It is obvious that before improved results can be obtained in the municipal health service more direct central control must be provided.

PROVINCIAL SANITARY REPORTS AND STATISTICS.

Presidents of municipal boards of health, and where there are no such officers, municipal secretaries, submit quarterly health reports to their district health officers who compile the statistics and render district health reports to this office. This system has been in operation for several years but as most of the presidents of municipal boards of health do not realize the importance of accuracy and are not acquainted with the true nature and purpose of sanitary statistics, it has not been deemed advisable except in a few instances to publish the data. The statistics, however, are classified and tabulated and are made the subject of correspondence with the purpose of establishing, by gradually introduced educational methods, a system of municipal sanitary reports that will be of value.

A few of the provinces issue special health bulletins in addition to rendering the prescribed reports.

THE MORO PROVINCE.

The jurisdiction over health matters during the year has been exclusively exercised by the Moro Province and no report of the health conditions has been received by this office. During the year cholera was conveyed from the northern part of Mindanao to Bohol, and caused an outbreak which was difficult to control.

The rough draft of the proposed health law for the Moro Province which was submitted to the Commission last year through the honorable the Secretary of the Interior has not yet been voted upon.

NEW CENSUS.

During the beginning of the calendar year it was deemed advisable to have another census of the city of Manila taken in order that the basis for statistical data might be more accurate. This census was completed during February. It showed that the total population of the city was 234,409 as against 223,542 of the census of 1907. The following table will give the increase and decrease that has taken place among the different nationalities:

Nationality.	1907	1910	Increase.	Decrease.
Americans	5,199	4,174		1,025
Filipinos	195,292	211,859	16,567	
Spaniards	2,903	2,364		539
Other Europeans	977	644		333
Chinese	18,028	14,093		3,935
All others	1,143	1,275	132	
Total	223,542	234,409	16,699	5,832

It will be observed from the foregoing table that there has been a notable decrease among the Caucasian and Chinese population and an increase among the Filipinos. The honorable the Secretary of the Interior has authorized the use of the new census and it will hereafter be employed in calculating the mortality and morbidity rates in the city of Manila.

MEDICAL EXAMINATION OF IMMIGRANTS.

During the year 9,506 immigrants were examined. The number of rejections was 57, all due to trachoma.

A Chinese opera company, composed of 78 individuals, was given temporary permission by the Bureau of Customs to enter the Philippine Islands for the purpose of supplying one of the attractions of the Philippine Carnival after which they were to return to China promptly; but, as has been the experience with former Chinese opera companies, delays occurred, and at the close of the year this opera company is still in Manila, causing this Bureau no end of trouble by their insanitary habits and their filthy manner of living.

PHYSICAL EXAMINATIONS.

The medical examination required of applicants for the Philippine civil service is conducted by the Bureau of Health.

During the year 590 persons were examined at the Bureau of Health, of whom 583 were passed, or 98.8 per cent of the total number examined. The high percentage passed is partially explained by the fact that all applicants are weighed and measured for height and when they found they would not pass they did not wait for further examination or registration. This eliminated about thirty-six applicants that would otherwise have been rejected. This is evidenced by the fact that only one rejection was for under weight or height.

The following tables show the number of persons examined and the result of such examination, also the cause for rejections:

Position.	Passed.	Rejected.	Total.
First-class patrolman, American	102	0	102
First-class prison guard	25	0	25
First-class fireman, American	43	0	43
Second-class prison guard	32	0	32
Second-class fireman	23	0	23
Third-class patrolman	81	6	87
Third-grade	45	1	46
Third-grade apprentice	149	0	149
Messenger	0	0	0
Second grade	27	0	27
Inspector, auxiliary	0	0	0
Machinist	0	0	0
Mate:			
Filipino	2	0	2
American	0	0	0
Building inspector:			
American	0	0	0
Filipino	2	0	2
Foreman	0	0	0
Insular	52	0	52
Total	583	7	590

Cause for rejection.

Poor vision	3
Myopia and endocarditis	1
Under weight	1
Organic heart disease	2
Total	7

The quarantine office, which is conducted by the officers of the United States Public Health and Marine-Hospital Service, made physical examinations of 113 persons desiring to enter the merchant marine; of this number 78 were passed or about 69 per cent of the total number of persons examined.

At the last session of the Philippine Legislature Act No. 1980 was passed in which the regular enlistment of officers and men in the Bureau of Navigation was provided for. For entrance to this service a rigid physical examination will be required.

QUARANTINE.

Insular maritime quarantine is imposed through local, provincial, and municipal health officials by order of the Director of Health when necessary. At ports of entry it is exercised by the United States quarantine officers. Maritime quarantine is rarely imposed except at ports of entry since in nearly all cases it is practicable to order vessels to quarantine stations.

It has not been necessary to require detention of vessels during the past year, as there have been no serious epidemics.

The imposition of land quarantine has been almost entirely abandoned as it was ineffectual. In certain cases as where the only entrance to a community is by a single trail it is useful.

Local house quarantine is carried out when advisable and is the only discretionary quarantine permitted to be exercised by the local authorities.

As a policy, the tendency on the part of the local officials to impose quarantine has been checked.

HABIT-FORMING AGENTS.

During the past few years, the medical profession, State boards of health, pharmacy boards and others interested in the public welfare have opposed the indiscriminate sale of habit-forming nostrums placed on the market under various names, purporting to be consumption cures, soothing sirups, and even drug-addiction treatments. Notwithstanding the fact that legislation, Federal, State, and Territorial, adverse to the unregulated sale and use of harmful drugs, has been enacted during the past decade, the consumption of opium in the United States per capita has increased.

The effect of the new food and drugs law has been beneficial and the present decade will undoubtedly show a decrease in the use of this drug. The ruling which permits general sale of certain preparations containing less than 2 grains of opium to the ounce is not without danger as it is possible to lay the foundation for drug addictions through the use of insidious, habit-forming preparations.

The exploiting of so-called consumption cures has apparently always been an inviting field for quacks, and during the last few years, since there has been a general awakened interest in this disease, the principle of graft has been more evident than ever among this class.

The Filipino people are too prone to believe what they see in print and expend thousands of dollars for advertised cures. The conditions are better here than in the United States, due largely to the strict enforcement of the law, but, later, additional measures will be necessary especially such as will educate the public through the press and by pamphlets, lectures, and cinematographs.

The Secretary of Agriculture of the United States has issued a circular of information, designated as Farmers' Bulletin 393, prepared by the chief of the division of drugs of the Bureau of Chemistry. Something along similar lines printed in the principal dialects of the country may be indicated for the Philippines at no remote date.

ADMINISTRATION OF THE FOOD AND DRUGS ACT.

During the fiscal year which corresponds to the third year of the enforcement of the Food and Drugs Act, 571 samples of food and drugs were examined under the provisions of the Act. Three hundred and sixteen were found to be neither adulterated nor misbranded; 215 were found to be either adulterated or misbranded, and of these 59 were either prohibited from entry or their sale forbidden.

Seventy-five per cent of the rejections were because of the use of boron as a preservative; the use of boron as a preservative in food products has been declared to be deleterious and the use of deleterious substances is prohibited under the Food and Drugs Act.

Summary of food and drug inspections.

Article.	Total.	Number of—	
		Adulterations and misbrandings.	Rejections.
Butter	20	4	4
Cheese	20	2	0
Fish:			
Canned	129	75	20
Dried	17	5	5
Fruits, preserved	12	4	0
Fruit juice	21	11	3
Ham and bacon	15	1	1
Jam	3	2	0
Lard	18	0	0
Meats, canned	29	16	11
Medicines and drugs	85	43	5
Milks, canned	37	19	0
Mineral waters	21	0	0
Olive oil	14	8	0
Oleomargarine	5	4	2
Sauces and condiments	10	3	1
Sausages	10	6	0
Vegetables, canned	66	29	1
Wines	15	8	4
Miscellaneous	29	15	2
Total	571	255	59

STEADY INCREASE IN THE USE OF MILK.

The importations of milk have shown a steady increase since 1903, and the increased use of milk can scarcely help but have an important influence upon the public health and more particularly in reducing the infant mortality by substituting a wholesome, assimilable food for the solid food which is so frequently used.

The following table, furnished by the Insular Collector of Customs, will be of interest:

Importations of milk.

Year.	Condensed.		Fresh.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Gallons.*	
1903	3,070,038	$247,866		
1904	3,238,052	251,261	8,804	$2,494
1905	3,018,276	233,667	8,587	3,778
1906	3,776,761	284,495	34,879	11,428
1907	3,646,264	289,789	69,080	27,435
1908	4,147,413	349,807	81,669	36,627
1909	4,752,783	406,607	118,397	47,233
Total	25,644,587	2,062,492	316,316	128,995

OFFENSIVE AND DANGEROUS OCCUPATIONS.

Offensive and dangerous trades are a necessity but the safety of the public demands that such occupations be regulated by stringent laws.

The ordinances of Manila and other large municipalities prohibit the establishment of any business of a highly offensive or dangerous nature within the limits of their respective municipalities or the establishment of less dangerous and offensive business within the district of strong materials, and prescribe that such business shall be conducted in a sanitary manner.

In the city of Manila, the more offensive places have been forced out of the city and come within the ordinance regulations of adjacent municipalities.

HEALTH PUBLICATIONS.

The Bureau of Health has published its regular quarterly and annual reports; a manual of 265 pages, containing the essential rules of official procedure and many general instructions for the guidance of its employees; Health Bulletin No. 8, entitled "Instructions for Simple-Remedy Packages"—a more detailed description of it is given elsewhere in this report; a collection of the food and drugs laws of the United States; and various minor publications.

A committee has been appointed to make the preliminary draft of the proposed provincial sanitary code which it is hoped will be ready for consideration by the Philippine Legislature before the time for submitting the next annual report.

The Manual of the Bureau of Health was issued during the year and has been of the greatest aid in rendering the administration of the Bureau more effective. It has been directly responsible for greatly reducing the amount of correspondence and it has enabled employees in the Bureau of Health to carry out instructions with much more promptness.

SIMPLE REMEDIES FOR THE INDIGENT POOR OF THE PROVINCES.

A great extension of the service furnished the indigent poor throughout the provinces has been brought about by the remedies being carefully selected and accompanied with simple instructions so that they may be used by any intelligent layman for the relief of suffering.

In order to meet the needs of this service, packages have been prepared in three different sizes, in addition to those which are furnished gratis by this Bureau, and large numbers are purchased by private individuals and others and also used for free distribution. Two hundred and fifty-six simple-remedy packages were prepared in the property division of the Bureau of Health under the supervision of Pharmacist Saleeby, of the Civil Hospital division.

SIMPLE-REMEDIES PACKAGES.

An investigation extending over the past few years of the drug supplies carried in the municipal building of the average municipalities showed that, as a rule, the drugs were most unsuitable for the purpose for which they were intended and in many instances no persons were found who were competent to make the proper use of them. In view of the great danger which many of the powerful drugs might be in the hands of those unaccustomed to their use it was deemed advisable to recommend to His Excellency the Governor-General that the purchase of drugs by municipalities which did not have a competent physician to prescribe them should be prohibited and in their place a simple-remedies package substituted. In order to make these remedies much more valuable a simple book of instructions (Health Bulletin No. 8) has been prepared and translated into Spanish, Tagalog, Visayan, Ilocano and several other dialects, giving directions in plain language as to how all ordinary conditions encountered should be treated. A copy of this Bulletin is sent with each package of medicine or it may be had upon application.

The packages contain the following:

SIMPLE-REMEDIES PACKAGE NO. 1.

Absorbent cotton	grams	500
Adhesive plaster, 5 meter 1.27 centimeters	spool	1
Bandages, cotton, 7.62 centimeters		12
Bandages, gauze, 2.54 centimeters and 5.08 centimeters		24
Medicine droppers		2
Boric-acid powder (in bottle)	grams	100
Calomel tablets, 0.03 gram		100
Camphorated oil	cubic centimeters	250
Carbolated vaseline	grams	250
Castor oil	cubic centimeters	500
Compound cathartic pills		100
Cough tablets		100

SIMPLE-REMEDIES PACKAGE NO. 1—continued.

Diarrhea and dysentery tablets		100
Epsom salts	kilos	2
Headache tablets, 0.3 gram		100
Iron, quinine, and strychnine tablets		100
Liquid cresolis compound (lysol)	cubic centimeters	500
Quinine tablets, 0.2 gram		1,000
Rhinitis tablets		100
Soda bicarbonate	grams	250
Spirit of peppermint	cubic centimeters	100
Sweet spirit of niter	do	100
Tincture benzoin compound (Friar's balsam)	do	100
Tincture of iodine (G. S.)	do	30
Toothache drops	bottle	1

SIMPLE-REMEDIES PACKAGE NO. 2.

Absorbent cotton	grams	250
Adhesive plaster, 1 meter 1.27 centimeters	spool	1
Bandages, assorted, 5.08 centimeters and 6.72 centimeters		12
Medicine dropper		1
Boric-acid powder	grams	50
Calomel tablets 0.03 gram		50
Camphorated oil	cubic centimeters	100
Carbolated vaseline	gram	100
Compound cathartic pills		50
Cough tablets		50
Diarrhea and dysentery tablets		50
Epsom salts	grams	500
Headache tablets, 0.3 gram		50
Iron, quinine, and strychnine tablets		50
Liquid cresolis compound (lysol)	cubic centimeters	250
Quinine tablets, 0.2 gram		200
Rhinitis tablets		50
Soda bicarbonate	grams	150
Spirit of peppermint	cubic centimeters	60
Toothache drops	bottle	1

SIMPLE REMEDIES PACKAGE NO. 3.

Adhesive plaster	piece	1
Bandage, 5.08 centimeters wide		1
Boric-acid powder	grams	25
Compound cathartic pills (in bottle)		25
Diarrhea and dysentery tablets		25
Headache tablets, 0.3 gram		25
Quinine tablets, 0.2 gram		25
Rhinitis tablets		25
Soda bicarbonate	grams	25

MINERAL SPRINGS.

With a view to having as much reliable data as possible available with regard to mineral springs and other springs to which medicinal properties are ascribed in the Philippine Islands, a number of places were visited and samples taken.

A spring located near Tanay, Rizal, has long been reported as having medicinal properties and being particularly valuable for the treatment of tuberculosis. A sample from this spring was sent to the Bureau of Science, and a chemical analysis, as shown by the following, was made:

Physical characters: Good.	
Free or saline ammonia	0.0058
Organic or albuminoid ammonia	0.0265
Oxygen consumed	Nil.
Chlorine	2.32
Nitrogen as nitrates	0.0946
Nitrogen as nitrites	Trace.
Silica (SiO_2)	103.73
Sulphuric acid radicle (SO_4)	2.807
Bicarbonic acid radicle (HCO_3)	175.68
Nitric acid radicle (NO_3)	0.419
Nitrous acid radicle (NO_2)	Trace.
Phosphoric acid radicle (PO_4)	1.209
Metaboric acid radicle (BO_2)	Nil.
Arsenic acid radicle (AsO_4)	Nil.
Chlorine (Cl)	2.32
Bromine (Br)	Nil.
Iodine (I)	Nil.
Iron (Fe)	Trace.
Alumina (Al_2O_3)	Trace.
Calcium (Ca)	34.069
Magnesium (Mn)	10.646
Potassium (K)	3.49
Sodium (Na)	16.28

The biological examination showed no amœbæ or other pathogenic organisms.

The Galas Spring, located in Laguna de Bay, has from Spanish times enjoyed a reputation for being particularly valuable in specific diseases, tuberculosis, and various forms of skin eruptions.

This spring is located on the east coast of the Jala-Jala peninsula, in Laguna Province, and is approximately 7 kilometers south of Mabitac and 10 kilometers north of Santa Cruz, at the base of a hogback which has on either side of it a large, open plain. The spring

was visited on February 27, 1910, and was found to have two openings, one of which is in a swamp and is completely abandoned, and the other is in very bad condition. The remains of three stone bath tubs were found near the latter opening, and some evidence remains of a house which stood in Spanish times. More detailed information in regard to the spring may be found in a report filed in the division of archives of the Executive Bureau, which was made by the Spanish Commission in 1885.

A chemical analysis by the Bureau of Science of this water revealed the following:

Total solids	880.4
Free or saline ammonia	.3281
Organic or albuminoid ammonia	.1591
Oxygen consumed	.8
Silica (SiO_2)	93.0
Sulphuric acid radicle (SO_4)	22.25
Bicarbonic acid radicle (HCO_3)	318.89
Carbonic acid radicle (CO_3)	Nil.
Nitric acid radicle (NO_3)	Nil.
Nitrous acid radicle (NO_2)	Nil.
Phosphoric acid radicle (PO_4)	Nil.
Metaboric acid radicle (BO_2)	Trace.
Arsenic acid radicle (AsO_4)	None.
Chlorine (Cl)	355.6
Bromine (Br)	None.
Iodine (I)	None.
Iron and aluminum oxides (Fe and Al)	1.8
Manganese (Mn) as tetroxide	.5
Calcium (Ca)	81.43
Magnesium (Mg)	32.97
Potassium (K)	19.13
Sodium (Na)	207.06
Lithium (Li)	None.
Ammonium (NH_4)	.422
Sulphuretted Hydrogen (H_2S)	Trace.
Barium (Ba)	None.
Strontium (Sr)	None.
Specific gravity at 4° C	1000.678

The following is a copy of the analysis which was reported by the Spanish Commission in 1885:

Indicaciones terapeuticas. Clima conveniente á las personas débiles, nerviosas y valetudinarias.

Caracteres Físico-Químico del Agua. Clara, transparente, incolora, de olor y saber hepáticos.

Reacción neutra en los papeles reactivos.

Desprendimiento abundante de burbujas gaseosas.

Temperatura del agua, 32 á 35 C. (La ambiente, 26, C.)

Oscilaciones de temperatura—perceptibles dentro de los límites citados.

Densidad, corregida á O C. y á 760 milímetros de presión—1,005,172.

Resultado inmediato del Analisis. Las susbtancias anhidras dosificadas en un litro del agua mineral, fueron:

	Gramos.
Acido sulfhidrico libre	0.008680
Acido carbónico, total	0.324600
Oxido cálcico en el sedimento que se forma por ebullición	0.063168
Oxido magnésico en el sedimento que se forma por ebullición	0.036973
Oxido calico en el agua hervida y filtrada	0.006496
Oxido magnésico en el agua hervida y filitrada	0.001903
Acido salicico	0.072000
Cloro	0.232543
Acido sulfúrico	0.025064
Oxido sódico	0.0212899
Amoniaco	Indicios.

El residuo fijo obtenido por la evaporación directa de un litro del agua mineral, y desecado á 180 C. próximamente, peso—0.688000

Resultado analítico definitivo, deducido por el cálculo. Un litro del agua mineral, á 33 C., contiene en disolución:

Ácido carbónico libre	(73.923559 cc.)	0.145979
Ácido sulfhídrico	(3.672161 cc.)	0.005680
Oxígeno	(5.503243 cc.)	0.007868
Nitrógeno	(11.792984 cc.)	0.014813
Bicarbonato cálcico		0.162432
Bicarbonato magnésico		0.116330
Sulfato cálcico		0.015776
Sulfato sódico		0.028017
Cloruro magnésico		0.004457
Cloruro sódico		0.378676
Cloruro amónico		Indicios.
Ácido silícico		0.072000
Total de substancias mineralizadoras (anhidras)		0.952028

Clasificación. Aguas hipotermales, sulfhídricas, cloruradas sódicas.

Comprobación del resultado del análisis.

		Gramos.
Total de substancias mineralizadoras por litro, según el cuadro anterior		0.952028
Ácido sulfhídrico libre	0.005680	
Oxígeno	0.007868	
Nitrógeno	0.014813	
Ácido carbónico libre	0.145979	0.263650
Ácido carbónico formando sal ácida con carbonato cálcico	0.049632	
Ácido carbónico formando sal ácida con carbonato magnésico	0.039678	
Diferencia correspondiente á la cantidad teórica de substancias fijas por litro		0.688378
Substancias fijas por litro determinadas experimentalmente		0.688000
Diferencia despreciable		0.000378

The biological examination made at the Bureau of Science showed no amœbæ or other pathogenic organisms.

A sample of water was also received from Malboc, Gasan, Boac, Marinduque, which was taken from a hot spring which had a considerable local reputation as being valuable in skin diseases and digestive troubles.

The result of the chemical analysis was as follows:

Physical characters: Brownish with suspended matter and HS odor.	
Reaction: Neutral to litmus.	
Total solids, 1,173.4.	
Free or saline ammonia	3.924
Organic or albuminoid ammonia	0.9177
Oxygen consumed	5.17
Chlorine	113.77
Nitrogen as nitrates	Nil.
Nitrogen as nitrites	Nil.
Silica (SiO_2)	88.15
Sulphuric acid radicle (SO_4)	65.425
Bicarbonic acid radicle (HCO_3)	928.326
Carbonic acid radicle (CO_3)	Nil.
Nitric acid radicle (NO_3)	Nil.
Nitrous acid radicle (NO_2)	Nil.
Phosphoric acid radicle (PO_4)	6.4661
Metaboric acid radicle (BO_2)	Little.
Arsenic acid radicle (AsO_4)	Trace.
Bromine (Br)	Nil.
Iodine (I)	Nil.
Iron and aluminum (Fe and Al) oxides	13.5
Manganese (Mn)	1.98
Calcium (Ca)	227.3
Magnesium (Mg)	46.21
Potassium (K)	0.52
Sodium (Na)	161.00
Lithium (Li)	0.731
Barium (Ba)	Nil.
Strontium (Sr)	Nil.
Specific gravity	1,001.3702

The biological examination showed no amœbæ or other pathogenic organisms.

In the report of the Bureau of Health for the fiscal year ended June 30, 1908, was given a report of the analysis of the water in the Sibul Springs. With a view to having analysis of all mineral springs in the Islands made upon the same standard, the following was the analysis recently supplied by the Bureau of Science with regard to this spring:

Reaction: Neutral.	
Total solids	510.33
(a) fixed	475.20
(b) volatile	35.13
Free or saline ammonia	.0072
Organic or albuminoid ammonia	.0278
Oxygen consumed	.5

Nitrogen as nitrates	Nil.
Nitrogen as nitrites	Trace.
Silica (SiO_2)	42.53
Sulphuric acid radicle (SO_4)	3.33
Bicarbonic acid radicle (HCO_3)	509.42
Carbonic acid radicle (CO_3)	Nil.
Nitric acid radicle (NO_3)	Nil.
Nitrous acid radicle (NO_2)	Trace.
Phosphoric acid radicle (PO_4)	Nil.
Metaboric acid radicle (BO_2)	Nil.
Arsenic acid radicle (AsO_4)	Nil.
Chlorine (Cl)	24.76
Bromine (Br)	Nil.
Iodine (I)	Nil.
Manganese (Mn)	Nil.
Iron and aluminum (Fe and Al) oxides	0.57
Calcium (Ca)	148.53
Magnesium (Mg)	15.23
Potassium (K)	1.166
Sodium (Na)	23.023
Lithium (Li)	Trace.
Ammonium (NH_4)	.0092
Sulphuretted hydrogen (H_2S)	1.78

Carbon dioxide (CO_2) free, 52.96 c. c. N. P. T. per liter.

SIBUL SPRINGS.

With a view to making the medicinal properties of the water from Sibul Springs available for a larger number of persons an inspection was made to determine the advisability of constructing a sanitarium at that point. As private capital did not seem to be inclined to undertake this project a recommendation was made to the last Legislature for an appropriation to construct a suitable building at Sibul. This recommendation was favorably acted upon and Act No. 1981 appropriating the sum of ₱50,000, in addition to an unexpended balance authorized by Act No. 1954, was passed at the last session of the Legislature. The plans are now in the course of preparation for the construction of a modern sanitarium and steps have already been taken to commence the sanitary bottling of the water at Sibul Springs so that the same may be purchased in the drug stores of Manila.

ARTESIAN WELLS.

The progress made in the installation of artesian wells has been most gratifying. The Bureau of Public Works reports that for the fiscal year just ended 82 new wells were installed. Since the boring of artesian wells was first commenced in the Islands during 1906, 189 wells have been completed from which it will be noted that 43.39 per cent of the total number were sunk during the fiscal year.

The Legislature is constantly augmenting the appropriations for this purpose and for the fiscal year 1911 has voted ₱300,000 as against

₱105,000 for last year. There is a widespread interest throughout the Philippines with regard to artesian wells as can be testified to by members of the Assembly who are burdened by numerous petitions and voluminous correspondence from their constituents with regard to local wants.

The following table will show by provinces the municipalities in which wells have been bored:

Province and municipality.	Wells bored.
Ambos Camarines:	
Baao	6
Bato	3
Buli	4
Calabanga	4
Camaligan	2
Magarao	2
Milaor	2
Minalbac	1
Nabua	1
Nueva Caceres	3
Pili	1
San Fernando	2
Total	31
Batangas:	
Balayan	3
Banau	1
Batangas	1
Calaca	1
Lemery	2
Taal	1
Tuy	1
Total	10
Bohol:	
Anda	3
Candijay	1
Cogton	2
Getafe	1
Guindulman	2
Mabini	1
Tagbilaran	1
Talibon	3
Ubay	1
Total	15
Bulacan:	
Bigas	1
Bocaue	1
Bulacan	1
Calumpit	1
Guiguinto	1
Malolos	2
Marilao	1
Meycauayan	1
Obando	1
Polo	1
Total	11
Capiz, Capiz	4
Cavite:	
Cauit	2
Cavite	3
Imus	1
Naic	8
Novaleta	2
Total	16
Cebu, Cebu	17
Ilocos Sur, Vigan	2
Iloilo:	
Iloilo	3
Jaro	1
Iloilo—Continued.	
Santa Barbara	1
Total	5
La Laguna, Santa Cruz	2
Leyte:	
Baruga	2
Carigara	5
Tacloban	1
Total	8
Manila, Manila	3
Mindoro, Calapan	1
Negros Occidental:	
Bacolod	2
Escalante	1
Total	3
Negros Oriental, Dumaguete	3
Nueva Ecija, Gapan	2
Palawan, Puerta Princesa	1
Pampanga:	
Bacolor	1
Guagua	2
Lubao	1
Macabebe	1
Mexico	1
Minalin	1
San Fernando	2
Santa Teresa	2
Santo Tomas	1
Total	12
Pangasinan:	
Bautista	1
Binalouan	2
Calasiao	1
Dagupan	3
Lingayen	1
Manaoag	1
Mangaldan	1
Pozorrubio	5
San Carlos	1
San Jacinto	1
Total	17
Rizal:	
Alabang	2
Caloocan	1
Malabon	1
Mariquina	7
Montalbon	3
Navotas	1
Parañaque	1
Pasay	2
Pasig	2
San Mateo	5
Total	25
Tayabas, Lucena	1
Grand total	189

In addition to the foregoing wells, many provinces and municipalities have purchased well-boring rigs of their own and constructed wells which are in active use. The exact number of wells bored in this manner is not known at the present time.

Attention is invited to the inclosed circular issued by the Executive Bureau regarding the proper care and maintenance of artesian wells and pumps, and sent out to all provincial boards.

CIRCULAR.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU,
Manila, December 11, 1909.

The attention of this office has been drawn to the unsatisfactory conditions which prevail in regard to the care and maintenance of artesian wells and pumps; that in many cases there is no provision for maintenance; and that pumps now installed are apt to be unserviceable for considerable portion of time owing to the lack of small repairs which nobody considers it his duty to make and for which no funds are provided.

These wells are public property and after being finished become (*a*) property of the provincial government if placed on land owned by the province; (*b*) municipal property if located on municipal property, parks, streets, and plazas, and provision should and *must* be made for their proper use, care, and maintenance.

Provincial boards are directed to bring to the attention of the president and council the contents of this circular in all municipalities where artesian wells have been placed by the Government, and require them to make provision in their annual estimate each year for funds sufficient to properly maintain the pumps on all artesian wells in the municipality. It has been estimated that ₱75 should be thus set aside and made available for each pump.

A standard type of pump will be adopted and a good supply of spare parts will always be kept on hand by the Bureau of Public Works or the Bureau of Supply. A pamphlet of instructions as to the care of the pump, explaining its mechanism and the method of making small repairs, will be issued by the Bureau of Public Works so that minor repairs may be made locally, and where the damage is such as will require the services of an expert, or immediate repairs can not be made locally, the municipal president shall immediately report the matter to the district engineer through the provincial board, and request that the repairs be made by the Bureau of Public Works.

The Governor-General will hold strictly responsible all municipal officials who allow their artesian wells or pumps to become unserviceable through lack of proper care and maintenance.

Any municipal president who allows any artesian well or pump in his municipality to suffer damage for lack of proper supervision as to its use, lack of timely and adequate repairs, or failure to make report, through the provincial board to the district engineer, or any serious damage to any artesian well or pump in his municipality, which can not be speedily repaired locally, for a period of more than forty-eight hours after said damage shall have occurred, will be subject to disciplinary correction for neglect of duty.

For the purpose of being kept well informed of the condition of artesian wells and pumps throughout the province, it is suggested that the board require all

traveling deputies of the provincial treasurer to make a written report to the board of the condition of each well and pump in each municipality that he visits; the board will then take prompt measures to correct any neglect on the part of municipal officials in case of failure to properly care for the wells and pumps in their municipality.

Very respectfully,

WM. T. NOLTING, *Special Agent.*

SANITARY ANALYSIS OF WATER.

The Bureau of Science has examined bacteriologically and chemically many samples of water both from Manila and the provinces.

The provincial examinations have pertained largely to the artesian wells. Reports have been submitted on each sample analyzed and in many cases this office has written advisory letters.

Water from the public houses such as hotels, bars, and other places, which are frequented by any considerable number of people, is frequently examined, and if it is not up to standard, a reasonable time is given to correct the defects which if not done is considered sufficient ground for closing the place until the requirements of the law are fulfilled.

SANITARY SEWERS OF THE CITY OF MANILA.

The sanitary sewer system which was completed by the city of Manila at a cost of approximately ₱4,000,000 has now been in operation and available for service in a greater portion of the city for a period of one year. The number of houses that have been connected with the sewer is still small but the work is now in progress as may be observed in the following list of connections reported completed by the city engineer's office:

Sanitary sewers installed during last fiscal year.

July, 1909	25	January, 1910	54
August, 1909	27	February, 1910	41
September, 1909	56	March, 1910	50
October, 1909	28	April, 1910	53
November, 1909	49	May, 1910	61
December, 1909	30	June, 1910	42

The total number is 516 to which should be added six connections made during the month of June, 1909, thus making 522 completed sanitary sewer connections at the close of the fiscal year. The work is being pushed as rapidly as possible and many orders are pending.

The following sanitary sewers have been constructed during the fiscal year ending June 30, 1910:

Months.	Length	Location.	Size.
	Meters.		*Inches.*
July, 1909	86	Divisoria	8
	163.4	Georgia	8
August, 1909	58.7	Soledad, Binondo	8
September, 1909	38.56	Florida	15
	32	Azcarraga, disposal station	15
October, 1909	47.9	Estrella, Binondo	6
	47.6	Esperanza, Santa Cruz	6
	61	Grey, Ermita	8
	58.4	Soler, Santa Cruz	8
	91	Almanza, Santa Cruz	8
November, 1909	159.2	Loreto	8
			10
	42.6	Disposal, Florida	10
December, 1909	30	Elcano, San Nicolas	6
	24	Zaragoza, Tondo	6
	56	Santiago de Vera, Tondo	6
October, 1909	121.9		(a)
	248.8		21
November, 1909	243.9		18
December and January, 1909–10	182.9	Santa Mesa, Sampaloc	15
	253		12
	236.2		10
December and January, 1909–10	172.6	Pennsylvania	10
	58.4	Tennessee	8
January and February, 1910	243	San Luis	8
February and March, 1910	232.6	General Hospital	9
	123.3		6
May, 1910	38.2	Anda, Intramuros	6
	24.6	Palacio, Intramuros	6
	32.2	Isla de Romero, Santa Cruz	8
June, 1910	108.2	Helios	8
	59	Vermont	8
	75.6	Mercado	6
	300	Valenzuela	8

[a] 2 feet by 3 feet.

The regulation compelling house owners to connect with the sewers was seriously interfered with by a temporary injunction, which has not yet been dissolved, that was granted January 25, 1910, by the Court of First Instance against the Director of Health suspending the enforcement of the ordinance regulating sewer connections in one particular case which may have an important bearing in other cases and until the legal difficulties can be cleared away, considerable delay will be encountered.

The principal difficulties are due to the fact that there are not enough persons engaged in the business of plumbing to handle the work promptly and not a sufficient supply of materials available to meet the demand.

SCIENTIFIC RESEARCH AND SANITARY INVESTIGATIONS.

In spite of the fact that the demands upon the force and time of the employees of the Bureau of Health have been very large, yet it has been possible to carry on a number of scientific investigations, the results of which promise to be most far-reaching.

Dr. A. J. McLaughlin, the Assistant Director of Health, and Dr. Vernon L. Andrews, of the Philippine Medical School, have made an

extensive investigation by autopsy and laboratory research into the causes of infant mortality and have conclusively shown that in order to combat this condition which is so serious in the Philippine Islands much additional investigation will be necessary. It is shown that the deaths reported for meningitis were almost in every instance due to other causes; for instance, during the months of October, November, and December, of the 28 cases of meningitis reported, 17 were found to be cholera, 4 beriberi, 1 empyema, 4 could not be determined, and only 2 proved to be meningitis. Subsequently autopsies were held and a disease closely resembling beriberi was found to be one of the principal causes of the mortality among infants, under 1 year of age. This question is still being actively investigated by the Assistant Director of Health and it is hoped that some definite remedy can shortly be applied to lower the appalling infant mortality in the city of Manila at least.

Doctor McLaughlin also perfected a method for safely transporting cholera cultures from distant points so that the diagnosis of cases in remote regions can now be definitely confirmed in Manila by laboratory methods. This is most important in studying the many intestinal diseases which are encountered in the Philippine Islands and will be of considerable aid in throwing light upon the so-called green rice diarrhea which is frequently reported when true cholera exists.

A number of new treatments for leprosy have been tried but so far none have been found superior to the X-ray and chaulmoogra-oil treatments which have been in use in the Bureau for some years.

Another most important line of work was started in connection with the investigating in a scientific manner of the nutritive value of the different food products which the Philippines produce, and of preparing them in a manner so as to be palatable to the masses. It shows for instance, that with a media peseta (5 cents United States currency) a dish of rice, fish, potatoes, and other vegetables could be bought which would be sufficient for the needs of one person for one day and make a nicely balanced diet. This work has been done principally by Miss Mabel E. McCalmont, the supervising nurse. Several papers upon the subject were read by her before the Teachers' Assembly at Baguio.

Under the direction of Medical Inspector A. C. Garton a method of sterilizing receptacles and a design of a bottle for factories making distilled water, was evolved, which has proved very efficient in actual practice.

A hookworm investigation was conducted at Las Piñas and the Cagayan Valley under the direction of Medical Inspector R. S. Rissler, and the discovery of hymenolepsis was made by the commission in Cagayan Valley.

The question of hospital construction in the Tropics has been given considerable thought and attention, and based upon the experience had

with those already constructed it is now believed that a type of hospital has been developed which will prove to be most suitable.

Dr. A. J. McLaughlin, Assistant Director of Health, and Dr. A. W. Sellards, of the Bureau of Science, undertook the experimental treatment of cholera at San Lazaro Hospital by the hypertonic salt solution method as advocated by Dr. Leonard Rogers, of India, but no superior results to those of the ordinary salt-solution method were obtained. Sodium hydrate, which was afterwards used, apparently offers some slight improvement over the salt-solution method. (The details of this work were published in the July number of the Journal of Science.)

Experiments have been made with ice machines of small capacity with the hope that some device could be developed which would be suitable for preserving vaccine virus and afford means of furnishing ice to the hospitals located in the remote sections of the Islands, but the results so far are not satisfactory.

In order to make a classification of the diseases treated in the different hospitals and dispensaries of the Bureau of Health uniform, a nomenclature for their classification has been prepared under the direction of Medical Inspector A. P. Goff.

A sewer trap to replace the unsatisfactory bell trap has been designated and is now used in all new work in Manila.

Considerable attention has been given to investigating the merits of the many new disinfectants and germicides with the hope that a more concentrated substance could be found which would mix readily with fresh or salt water and not injure articles and be transportable into remote regions. From the tests so far made Cofectant, Kreso, Izal, and Jeyes Fluid have proven more satisfactory than carbolic acid.

THE SOCIETY FOR THE PROTECTION OF INFANTS.

The support given by the community to the Society for the Protection of Infants, or the Gota de Leche Society, as it is commonly called, has steadily decreased until only about ₱164 are received monthly. It would probably have suspended operations before now if its worthy purposes and efforts in saving the lives of children had not been brought to the attention of the Philippine Legislature through which means an appropriation was secured that has enable this Bureau to contribute approximately ₱500 monthly to its support. This is in addition to the assistance obtained from the Municipal Board of the city of Manila which voted the sum of ₱1,800 annually for the employment of nurses.

The assistance thus obtained has enabled this worthy institution to continue, but it has practically changed its status from that of independence to reliance on Government support, thus following local customs in matters of this kind.

AMBULANCE SERVICE.

The ambulance service in the city of Manila has been greatly improved during the year. With a view of determining which type of ambulance would prove to be most suitable, the city of Manila purchased patrol wagons which can readily be converted into ambulances; and this Bureau purchased two electric ambulances. Both types of ambulances have proven most satisfactory, but the steamer type is more expensive to operate. Another year's experience will probably be necessary in order to demonstrate which type is the most suitable for use in Manila.

UNIFORMS.

The regulations with reference to the uniforms of sanitary inspectors have been revised so as to require the use of the campaign hat similar to that used by army officers, the only difference being the employment of a silver hat cord instead of the gold cord.

Disinfectors and ambulance attendants are uniformed in the same manner as sanitary inspectors, the distinction being in their badges.

CHANGE OF HEADQUARTERS DURING HOT SEASON.

This year the policy of transferring every Bureau possible to Baguio during the hot season was fully adopted and the movement was begun on a large scale.

The Governor-General extended the time for the occupancy of the summer capital or the "Baguio season," as it is popularly called, from February 15 to June 15 of each year. Owing to the unfinished state of the Government buildings at the opening of the season, a short postponement of the exodus was necessary.

The officers and employees assigned to Baguio are required to perform not less than seven hours labor each day, exclusive of Sundays and public holidays, and five hours on Saturdays. The vacation leave of employees assigned to Baguio is reduced proportionately to the duration of their assignment; for example, a thirty days' assignment to Baguio cancels two-thirds of the vacation leave, while a full assignment for the entire season, cancels the entire vacation leave.

The employees of most of the Bureaus suffered from diarrheal diseases which were attributed to contamination of the distilled water by flagellates, due to inadequate safeguarding and to the lack of adequate cold-storage facilities, particularly for meat. With the exception of this disease, the employees as a rule enjoyed good health. Most of the employees, however, gained weight and returned to Manila much improved. As the facilities at Baguio improve there should be little difficulty in preventing intestinal disturbances of this kind.

It will hardly be questioned that the amount of work accomplished in Baguio exceeded that performed in Manila, which fact may be properly ascribed to the bracing effect of the climate.

The spending of a part of the year in Baguio will have a profound influence on the believed-to-be-necessary practice of returning to the United States for the benefits to be derived from cool weather.

The increased preparations that will be made for the next season and the better safeguarding of the drinking water and food will insure better and more pleasant environments and conditions and add to the popularity of this resort.

THE PAYNE BILL AND THE EXPORTATION OF TOBACCO PRODUCTS.

The passage of the Payne Bill soon caused all the tobacco factories to increase their number of employees and in some instances night shifts were put on.

In certain quarters of the United States slanderous reports were circulated with regard to the insanitary conditions of local factories and with regard to loathsome diseases with which the employees were alleged to be afflicted.

In addition to the routine inspections which had been in vogue for some years under the provisions of the Sanitary Code special investigations were made and the health of the operatives was found to be excellent. These inspections are kept up without relaxation and are submitted to willingly by the factories.

In order that the "guarantee label" provided for by an Act of Congress may be affixed only in accordance with law, every factory desiring to use it upon its product must comply with the following regulations:

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, P. I., April 1, 1910.

REGULATIONS OF THE BUREAU OF HEALTH FOR THE SANITARY CONTROL OF CIGAR FACTORIES.

1. All the rules and measures at present in force for the sanitary maintenance of houses and shops shall be observed most rigorously, giving special attention to personal cleanliness and to the sweeping and washing of floors and walls, and also to the collection of garbage and refuse in metal receptacles with well-fitted covers. (Sec. 690 of Revised Ordinances.)

2. There shall be installed at some convenient place, approved by the Director of Health, in each factory, wash basins of modern type, arranged in rows, with an abundant supply of water, with proper traps and vents and connected with the sewer. One or more special employees of the factory shall have charge of the cleaning and proper keeping of these wash basins and shall see that each laborer or workman before commencing work shall wash his hands with soap and water. The Bureau of Health, may, at its discretion, compel this washing to be done with a disinfecting solution.

3. A sufficient number of modern water-closets, properly trapped and vented, shall be installed for the employees of each sex, and also a wash-basin fixture of approved type for each flush closet. The closet for men should be equipped, in addition, with a sufficient number of urinals of modern type approved by the

Bureau of Health. One or more special employees shall be in charge of the cleaning and proper keeping of these sanitary fixtures and shall see that all employees, male or female, carefully wash their hands upon leaving the closet. Upon request of the factory, such employees, as well as those performing similar duties referred to in paragraph 2, will be given special appointments, by the Director of Health as subsanitary inspectors.

4. No restaurants, canteen, dining room, or "carinderia" will be permitted in the interior of the factory except those with first-class sanitary accomodations.

5. It is prohibited absolutely to hire employees suffering from any contagious, infectious, or desquamative disease, however mild. All employees, upon original entry into the factory, must first pass a satisfactory medical examination at the hands of the physician of the factory or by a doctor of the Bureau of Health. Twice each month, on the first and fifteenth thereof, medical inspection must be made of each and every operative employed in the manufacture of cigars and cigarettes and lists will be prepared, signed by the factory physician and promptly forwarded to the Director of Health, following each inspection, giving the name of each employee and the class of work engaged upon, who may be found free from any contagious, infectious, or desquamative disease. A second list shall be furnished on which shall be shown in the same identical manner any employee not free from any disease mentioned above, and such employees shall be at once segregated and not permitted reëntry into the factory until free from such disease. This semimonthly inspection shall not prevent at any time the inspection of any or all of the employees, male or female, by a health officer, whose decision in matters of disease and sanitation shall be decisive.

6. The use of a sufficient number of spittoons of smooth and polished surface, to facilitate their cleaning which must be done at least once every day, shall be compulsory in all factories.

7. Young children, especially nursing children, shall not be permitted to enter any cigar factory.

8. It is absolutely prohibited to use saliva, impure water, the lips, tongue, or mouth, or unclean hands, in any operation directly connected with the manufacture or packing of cigars and cigarettes. It is also prohibited to trample or walk or stand on the tobacco for any purpose whatever.

9. All the operations in selection of leaves and the drying and manufacture of cigars and cigarettes, except where necessary in process of manufacture, shall be made upon perfectly dry floors and on dry, clean working tables. The warehouses shall be dry and well provided with air and light. The use of clean mats upon floors and tables, also clean, is permitted.

10. For the purpose of preventing so far as possible the falling to the floor and probable contamination of tobacco leaves and other materials used, the work tables shall be provided with canvas troughs along their edges, which shall be kept in a proper state of cleanliness.

11. No article of clothing or part thereof, as skirts, "tapis", handkerchiefs, etc., will be used to wrap or remove from one place to another tobacco or other materials used in the manufacture of cigars and cigarettes.

12. No room, parlor, warehouse, or premises used as a shop or a part of a cigar factory shall be used as habitation or sleeping room by any person or persons at any time of day or night.

13. All factories shall be kept open to the inspection of the officers and employees of the Bureau of Health, without previous notice. These inspections may be made at hours and days wholly unexpectedly in order that the degree of attention which the owners pay to the compliance with these rules may be determined.

PROVINCIAL HOSPITALS.

It is most satisfactory to report that during the year just closed more progress has been made toward the establishment of hospitals in the provinces than during the entire preceding time of the American occupation.

The following amounts have become available for constructing hospitals: Cebu General Hospital, ₱81,757; Cebu Dangerous Communicable Diseases Hospital, ₱30,000; Sibul Springs Sanitarium, ₱80,000 (approximately); Bontoc Hospital, ₱30,000; Tuguegarao Hospital, ₱80,000; Butuan Hospital, ₱8,000; medical officer and nurses' quarters at Baguio, ₱30,000; medical officer and nurses' quarters, San Lazaro, Manila, ₱30,000.

Plans for the Cebu hospital have been completed and bids are now being advertised for, so that before another year passes it is to be hoped that this hospital will be in actual operation. At Bontoc, the ground has been broken and construction begun.

In the last Bureau of Health report submitted by Col. E. C. Carter (then major), the immediate predecessor of the present Director, he said in treating of provincial hospitals:

> No one who is not associated intimately with the people of these Islands can realize how much unnecessary suffering exists among them, or how many unnecessary deaths occur. Number of cases of deformities, of old wounds, injuries, and dislocations, and of surgical diseases as well as other ailments, are waiting help at the hand of the surgeon or physician. I have very much hope to see some of these district hospitals established by the Government during my term of office. To me, the need of hospitals seems the greatest, most obvious, and imperative need of these Islands. The suffering, diseases, and deformities must be seen to be realized, and it is well known that those afflicted with diseases or deformities are likely to conceal themselves from public view so that it is mainly the physician who comes in contact with them and realizes their existence. A statement of statistics or a description of the cases will neither move nor touch as seeing them does.
>
> It was hoped, too, that the establishment of these hospitals, and their maintenance along scientific lines, might have aided in convincing the inhabitants of these Islands that the Government has their good at heart.

Colonel Carter, though thousands of miles away, never lost interest in this project. In his last message to the Philippine Islands, addressed to a medical inspector of the Bureau of Health, he asked about the provincial hospitals and expressed the hope that some of them would soon be built. But he died April 12, 1910, without knowing that the realization of his fondest hope was at hand. He would not have wished for a greater monument than the establishment of these hospitals or for greater fame than that his name shall associated with the announcement of the fact that the appropriations have been for such purpose, and that a good beginning has been made in the system of provincial hospitals for which he hoped with all the earnestness of his unselfish nature.

DEATH OF COLONEL CARTER.

Lieut. Col. Edward Champ Carter, Medical Corps, U. S. Army, died at the Army and Navy Hospital, Hot Springs, Ark., on April 14; immediate cause of death, œdema of the lungs. Colonel Carter had been ill since last September. During December, 1909, and January, 1910, he was in the Presbyterian Hospital, Chicago, under the care of Dr. Frank Billings. He was tranferred to the Army and Navy General Hospital, Hot Springs, Ark., in February.

Colonel Carter was born in Caroline County, Virginia, July 7, 1854, and was appointed first lieutenant and assistant surgeon in the Army October 22, 1881. He was advanced to the grade of captain October 22, 1882; promoted to major-surgeon, United States Army, December 21, 1898, and to lieutenant-colonel, Medical Corps, April 23, 1908. During his service in the Army he was stationed at Willets Point, N. Y.; Angel Island, Cal.; Camp Price, Ariz.; Fort Thomas, Ariz.; Columbus Barracks, Ohio; Fort Walla Walla, Wash.; and various posts in the Departments of Columbia and Dakota. While stationed at Fort Canby he was commended by the Secretary of the Treasury for valuable service rendered the life-saving crew at Fort Canby in rescuing the passengers and crew of the old British ship *Strathblune*. He was in charge of the Leiter U. S. General Hospital and Sternberg General Hospital, Chickamauga Park, Georgia, during the Spanish-American war. He was attending surgeon in Washington from 1898 to 1902, and was the commissioner of public health, Philippine Islands, from 1902 to 1905. Colonel Carter was universally known as an accomplished gentleman and an ornament to the Medical Corps of the Army.

SPECIAL SANITARY PROBLEMS IN THE PROVINCES.

A satisfactory method suitable for disposing of excreta in the provinces of the Philippine Islands is yet to be found. Many plans have been proposed most of them more theoretical than practical. Those who are familiar with local conditions will realize that the resources of the average community are very limited and that a plan must be found which can be put into working shape with a minimum amount of effort and cost.

In large communities where water carriage of sewage is possible, septic tanks are used successfully. In communities in which cholera has prevailed, the pail system, the digging of pits, and covering of excreta with lime or clean earth at regular intervals has been found effective but the cost of maintenance and inspection at regular intervals is prohibitive and only warranted by emergency conditions.

Some years ago a plan was suggested of installing a pail system with an after treatment of the night soil which would render it suitable for fertilizing mulberry trees, thus promoting the silk industry, the income from which would in a short time place this particular sanitary measure upon a self-paying basis.

The plan followed in many oriental countries of letting out private contracts for the collection of night soil from private residences is not believed to be a safe one. It is an established custom to use such night soil for fertilizing vegetables and it is believed that the consumption of raw vegetables thus fertilized has had much to do with the spread of amœbæ dysentery, cholera, hookworm and other intestinal diseases.

SANITARY EDUCATION BY CINEMATOGRAPHS AND LANTERN DEMONSTRATIONS.

To supplement the educational feature of the sanitary campaign being conducted by the Bureau of Health, especially with reference to tuberculosis it was decided to utilize the cinematographs of the city and as a beginning the following letter was addressed to one of the leading operators of moving picture shows in Manila:

MANILA, P. I., *October 13, 1909.*

MR. A. W. YEARSLEY,
P. O. Box 653, Manila, P. I.

SIR: This Bureau is desirous of commencing an educational campaign with regard to the manner in which the spread of tuberculosis may be prevented and it is believed that one of the best ways of doing this would be by means of cinematograph films. Information is respectfully requested as to whether it would be practicable to obtain films which would illustrate the nature of the bacilli of tuberculosis and of other infectious germs, and have such films shown at the local cinematograph shows as a part of the educational campaign being conducted by the Bureau of Health.

This work is of a charitable nature entirely, and especially intended to enhance the sanitary knowledge of the poor and thus improve their condition.

An estimate of the cost is desired in order that this office may make the necessary financial arrangements for securing the films.

In reply to the foregoing letter, Mr. Yearsley wrote as follows:

EMPIRE THEATER,
Manila, October 17, 1909.

DEAR DOCTOR HEISER: Your favor of the 13th instant came to hand and I must say that the suject of sanitary educational moving-picture films is one which should receive the most hearty support of everyone. It brings to the writer's mind a number of articles printed some time ago in one of the leading magazines of the country, entitled "The White Man's Plague." It is suggested that the assistance of the writer of these articles be asked with a view of having his illustrations reduced to films. This would enable me to take the matter up with the motion-picture people.

As a result of this correspondence there are now being shown in Manila every night to thousands of people, pictures of deadly germs and during the day the public-school teachers are giving instructions in the principles of hygiene, thus following up these practical lessons with wholesome advice.

Such a campaign should be productive of great good, and judging from the enthusiasm with which the films are received, the project was just what was needed. Cinematographs are the poor-people's theaters but are fre-

quented by all classes—rich and poor, old and young, alike. By this means every home in Manila is reached sooner or later.

Arrangements have just been completed for the purchase of a large reflectoscope which will be suitable for use in the provinces. A medical officer of the Bureau who can speak the dialect of the section in which it is intended to use it, will be detailed to deliver lectures in simple language upon subjects of popular hygienic interest, such as tuberculosis, intestinal parasites, personal hygiene, diet, and others of a similar nature.

MEDICAL EDUCATION.

The Philippine Medical School during the early part of the present session will occupy its new building which was specially designed and equipped for medical-school purposes. With the excellent facilities which now exist in that institution and the many capable instructors connected therewith, the school is in a position to take front rank among the medical institutions of the world and shortly will offer facilities for the study of tropical medicine which can not be surpassed in any other portion of the globe. The Santo Tomas University has also been improving its equipment and arrangements have been made for some of its faculty to go abroad for the purpose of becoming familiar with the latest discoveries in medicine. This institution is in a far better position now to teach medicine than at any time in its history.

SPECIAL SCHOOLS.

A most important step in a movement inaugurated by the Catholic Church, which has as its purpose the reformation of youthful incorrigibles and the protection of orphan children, has been taken by Archbishop Jeremiah J. Harty in the purchase from the Government of the buildings on the friar lands estate at Calamba, La Laguna, and at Lolomboy, Bulacan.

Realizing the necessity for such institutions, especially a reformatory, the Archbishop authorized his legal representatives to purchase these buildings, and work will be begun immediately to remodel them into a style more suitable for the purpose.

The buildings at Lolomboy were formerly used as *casas haciendas,* being the administration buildings of the surrounding estates. The buildings are inclosed by a high wall, the area inside being about 7 acres.

This is to be used as a model reformatory and industrial school where, for the first time in the history of the Philippine Islands, incorrigible youths will be given every opportunity and will be assisted to become good and useful citizens.

The need for such an institution has been pointed out many times, both by the clergy and judges of the municipal court, and the Arch-

bishop believes that the institution will be able to accomplish much good.

The buildings on the estate are fine examples of masonry and are substantial structures which have stood for decades and can be readily repaired.

The lower floors are to be converted into model workshops, where boys will be taught trades under competent instructors.

Heretofore the incorrigible youth of the city have been sent to the Hospicio de San Jose, where no such methods could be adopted owing to the nature of that institution, but the administration of the industrial school at Lolomboy will remain in the hands of the board of directors of that college. Direct control of the school, however, will be in the hands of the Sisters of Charity, who will attend to all domestic arrangements.

The buildings on the Calamba Estate will be converted into an industrial and training school for orphan girls, where the inmates will be given, besides the usual course of study, instruction in lace making, embroidery, domestic science, and other useful arts.

The Archbishop is also negotiating for the purchase of the buildings on the friar lands estate at Naic, Cavite, but the transfer has not yet been affected. These buildings, if secured, will be turned into a girls' school similar to that to be established at Calamba. The plans for these institutions, however, have not yet been fully developed.

SCHOOL FOR DEFECTIVES.

The Bureau of Education maintains a boarding school for defective children, especial attention being paid to the deaf, dumb, and blind. The school is located in Manila but pupils are received from all parts of the provinces.

The school is supplied with modern mechanical devices used in the special methods for imparting knowledge to defectives, and is under the management of Miss Delight Rice, of Columbus, Ohio, who has been specially trained for this class of work.

Industrial work is a feature of the educational course and each graduate will be equipped to make his own living.

ARMY MEDICAL BOARD FOR THE STUDY OF TROPICAL DISEASES.

The personnel of the Board has undergone a change owing to the period of service of its former members in the Philippine Islands having expired. The Board is now composed of Maj. W. B. Chamberlain, Capt. Edwin D. Kilbourne, and Capt. Horace D. Bloombergh. Considerable assistance has again been rendered by this Board to the public-health service by its investigation of problems which are of interest not only to the Army but to this Bureau as well. The tests made with actinic-proof clothing were reported at the meeting of the Far Eastern

Association of Tropical Medicine. Considerable additional work has been done in connection with intestinal parasites which will throw light upon this problem in the Philippines. Much of the material which is used by the Board is still being furnished by this Bureau.

"CIRUJANOS MINISTRANTES" AND PRACTICANTES.

With two medical colleges in the Philippine Islands the day of the *cirujano ministrante,* the *practicante,* and the *mediquillo* is drawing to a close.

Some plan must be devised to induce the young medical graduates to locate in the provinces. They all want to have offices in Manila. The Bureau of Health appointed one young man as assistant district health officer and after the usual period of instruction in one of the health stations of Manila, he was assigned to the Province of Bataan, in the cholera work. After the lapse of a few months he was ordered to Pampanga Province, probably not more than 20 miles further away from Manila and he resigned rather than go so far from home. Twenty miles with the average Filipino is more that a thousand miles to an American so far as going away from their home is concerned.

It is this attitude that has filled the larger cities of the Philippines, especially Manila, with an excess of physicians, and left many of the remoter municipalities in need of trained medical attendance and has given rise to a crop of *mediquillos* who impose on the people regardless of the laws.

LEGAL REQUIREMENTS FOR THE PRACTICE OF MEDICINE IN THE PHILIPPINE ISLANDS.

Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, enacted December 4, 1901, provides in effect that every person desiring to begin the practice of medicine and surgery within the jurisdiction of the law shall apply to the Board of Medical Examiners for a certificate of registration and such applicant shall submit to an examination in anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, hygiene, surgery, practice of medicine, obstetrics, diseases of women and children, diseases of the nervous system, diseases of the eye and ear, medical jurisprudence, and shall present a diploma from a medical school or college recognized as reputable by the Director of Health. These examinations may be oral or written, or both, and in case an applicant shall fail to pass a satisfactory examination, he shall not be permitted again to present himself for examination until a period of six months has elapsed.

The Board of Medical Examiners is required by law to meet in the city of Manila for the purpose of examining candidates desiring to practice medicine in the Philippine Islands on the second Tuesdays of January, April, July, and October of each year.

Special examinations are frequently held to accommodate physicians who are going to the provinces or who would otherwise be inconvenienced by waiting for the regular examinations. No temporary certificates are issued.

The fee for examination as a physician, either licentiate or doctor of medicine, is $15 (₱30), and the certificates issued by the Board must bear an internal-revenue stamp of $0.10 (₱0.20), thus making the total cost of the certificate $15.10 (₱30.20). The financial transaction does not end here. Every person holding a certificate of registration from the Board of Medical Examiners shall have it recorded in the office of the registrar of deeds in the province or provinces within which he may desire to practice or in the city of Manila, as the case may be, before engaging in the practice of medicine, surgery, or midwifery, and until such certificate is so recorded, the holder thereof shall not exercise any of the privileges to practice medicine conferred therein. The fee for recording a certificate is $1.50 (₱3) for each province in which it is registered, the fee however is paid but once in the same province.

After a doctor has successfully passed his examination and recorded his certificate with the registrar of deeds, he must next pay an industrial tax of $25 (₱50). This tax is collected every year but may be paid in quarterly installments.

After all of this has been done, the physician may open an office and wait for patients, unless he be a Government employee, in which case, the permission of the Secretary of the Department in which he is employed must be had.

The Board of Medical Examiners issues four kinds of certificates, one for persons holding the degree of doctor of medicine, another for persons holding the degree of licentiate of medicine, a third for *cirujanos ministrantes,* and a fourth for midwives.

The examination is the same for doctors and licentiates of medicine and the privileges conferred by the certificates are identical except as to eligibility for appointment on the Board of Medical Examiners, as only doctors of medicine can serve in this capacity.

A *cirujano ministrante* is a person who has studied medicine in the Santo Tomas University of Manila for not less than two years and received therefrom the degree of *cirujano ministrante.*

A *cirujano ministrante* and an undergraduate of medicine are one and the same thing within the meaning of the law. In the larger municipalities, *cirujanos ministrantes* usually assist physicians by administering medicine, taking the temperature and pulse, and noting any condition or change that should be brought to the attention of the medical attendant. They are the personal representatives of the physicians and remain with the patients as attendants, there being two

or more employed for each case according to the financial condition of the patient.

In the remote municipalities where there are no civilian physicians, *cirujanos ministrantes,* better known as *practicantes,* are sometimes licensed by district health officers to practice medicine after passing a "satisfactory examination" and paying the required fee of ₱10 to the provincial treasurer. The Board of Medical Examiners has no control over this special examination and takes no cognizance of such licenses except to require the holders of the same to be registered as *cirujanos ministrantes.* The *cirujano ministrante,* both in the provinces and the larger municipalities, is on the lookout for himself and often solicits practice by personal requests and other means quite as unprofessional.

The Santo Tomas University degree of C. M. is the only C. M. degree recognized by the Medical Act. The Philippine Medical School, a department of the Philippine University, grants only the degree of M. D. and its students are registered without examination, under an Act of the Commission but in all other respects, they are required to comply with the provisions of Act No. 310.

The law contemplates that no person shall practice midwifery in the Philippine Islands without first having passed a satisfactory examination before the Board of Medical Examiners and being granted a certificate of registration. This is the only registration permitted to the nonholders of a medical degree. There are many illegal practitioners of midwifery, especially in the provinces, and it is practically impossible to remedy the evil under the present conditions. It is a question of licensing a great number of incompetent people or creating an obstetric monopoly, since those who can pass an examination of the simplest character are exceedingly few.

Registered midwives charge almost as much for their services as do the best physicians and their certificates of registration are just as attractive to the public as the certificates of the doctors. This is another matter that demands legislative attention.

The character of medical examinations in the Philippine Islands will compare favorably with State board examinations of the United States. No literary educational test is required by Act No. 310, regulating the practice of medicine and surgery, either as preliminary to the study of medicine or in the examinations for admission to practice. Such tests are not necessary for the graduates of the Manila medical schools as practically all of them hold the degree of bachelor of arts.

Medical officers of the United States Army, the United States Navy, and the United States Public Health and Marine-Hospital Service are exempt from the operations of the Medical Law and from the payment of the industrial tax imposed on physicians if they engage in private practice.

The present organization of the Board of Medical Examiners consists of Dr. Isidoro Santos, president; Dr. Eleanor J. Pond, secretary-treasurer, and Dr. Almon P. Goff, member.

The address of the secretary-treasurer who is the proper person to apply to for information, is University Hospital, Manila.

OBSTETRICS.

Recently a determined effort has been made by the faculty of the Philippine Medical School and the physicians of the Bureau of Health to furnish a better obstetrical service to the indigent poor of the city of Manila. To accomplish this purpose an out-patient obstetrical department was established to which was attached two nurses and a sufficient number of physicians so that one or more would be subject to call at all times. Patients were visited in their homes before labor and were confined there if they did not desire to enter the hospital.

During the early part of April only a few calls were received. Great publicity was given to this movement and considerable self-sacrificing work has been done and it is satisfactory to report that 1,147 visits were made during May, the number of deliveries being 36. A large number of lives were undoubtedly saved by this improved service and an educational movement has been started which it is hoped will make itself gradually feft throughout the Philippine Islands.

At the present time the great difficulty is to impress the masses with the necessity of demanding a better class of service from the midwives and not to attribute untoward results to the inevitable.

This movement will unquestionably be of considerable aid in successfully starting the school for midwives which it is proposed to conduct in connection with the obstetrical department of the new Philippine General Hospital.

THE LEGAL STATUS OF THE PRACTICE OF OBSTETRICS IN THE PHILIPPINE ISLANDS.

In view of the great interest recently manifested in this question the following paper prepared by Medical Inspector R. E. L. Newberne for the Manila Medical Society is reproduced.

The legal status of the practice of obstetrics in the Philippine Islands is fixed by section 11 of Act No. 310, and is as follows:

"Any person desiring to practice obstetrics in the Philippine Islands shall be entitled to a certificate of registration as midwife from the Board of Medical Examiners, upon passing a satisfactory examination and paying to the secretary-treasurer of the Board a fee of five dollars (ten pesos). The examination shall be of such a character as to determine the qualifications of the applicant for the practice of midwifery. Any person practicing midwifery in the Philippine Islands without first having obtained a certificate of registration herein provided for, or otherwise contrary to the provisions of this Act, shall, upon conviction, be punished by a fine of not more than fifty dollars (one hundred pesos) for each offense: *Provided*, That this section shall not be construed to prevent a doctor of medicine or licentiate of medicine who holds a certificate of registration as such

from practicing obstetrics, or to prohibit the gratuitous rendering of obstetrical services by a friend or member of the family of the patient, or to prohibit the rendering of obstetrical services by any person in any case of emergency, nor shall it apply to persons practicing midwifery in municipalities where there are no licensed practitioners."

After the certificate provided for in the aforesaid section has been received, it must be registered pursuant to section 7 of the Medical Law which requires that—

"Every person holding a certificate from the Board of Medical Examiners shall have it recorded in the office of the registrar of deeds in the province or provinces within which he may desire to practice, or in the city of Manila, as the case may be, before engaging in the practice of medicine, surgery, or midwifery; and until such certificate is so recorded, the holder thereof shall not exercise any of the privileges to practice medicine conferred therein. The holder of the certificate shall register the usual fees for recording such certificates."

After the legal fee of ₱10 has been paid, a 20-centavo internal-revenue stamp purchased, the required examination passed, and the certificate recorded with the registrar of deeds, and the fee of ₱3 therefor, duly paid, the midwife may legally exercise her profession, after paying an internal-revenue tax of ₱10.

Thirty-six midwives have registered since the organization of the Board of Medical Examiners, January 4, 1902, of which number, thirty-four reside in Manila, one in Iloilo, Iloilo, and one in Vigan, Ilocos Sur.

The first midwives that were registered were those that had been students in the San Juan de Dios Hospital or in other hospitals and had been exercising their profession in Manila before the passage of the medical law.

The number who had received hospital training was so small in comparison with the number who were practicing midwifery that it gave those that were registered a monopoly and they were not slow to take advantage of it, and to arrange their schedule of fees on modern trust lines.

There are more women practicing midwifery in Manila than the 34 who are registered and it is possible that some of the unregistered practitioners are fully as capable as the registered ones. Many of the latter are certainly not mentally or educationally equipped for their important work, and their registration was a choice of two evils. They were practicing under the protection of the "friend of the family" clause of the law, and not reporting their cases, with the result that the Board of Health was shut out from a valuable source of information with regard to birth statistics. After due consideration it was decided that as registered midwives these women could do less harm than they were doing as illegal practitioners, and that as it was impracticable to keep them from practicing, it would be better to register the more prominent ones.

In a few instances in which prosecution was instituted against women for practicing midwifery, illegally, the court advised that those

who had been engaged in the practice for many years be registered. Notices were sent out to all known illegal practitioners that they must register or cease practicing and as a result several appeared before the Board and did the best they could. Not a single applicant was qualified to pass a written examination; in fact many of them could not write at all, and did not know the names of the structures and were not familiar with the terms ordinarily employed by examiners, hence it was required that oral examinations should be supplemented by certificates from physicians, testifying to the experience of the applicants.

The increase in the number of births reported and the interest that these women have shown in Doctor Calderon's lectures for their instruction have demonstrated the wisdom of the concession that was made to them.

The status of the midwife in the Philippine Islands is far from satisfactory but it is not beyond hope.

Let the trained nurse supplant her and the problem will in part be solved.

THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

The first biennial meeting of this association was held in the city of Manila from March 5 to March 12, 1910, and in Baguio from the 13th to the 14th of the same month. The sessions in Manila were held in the administration building of the new Philippine General Hospital, and in Baguio in the session hall of the Philippine Commission. Delegates were present from Japan, China, Colombo, Hongkong, Straits Settlements, India, Siam, German Port Tsingtaw, Federated Malay States, New Zealand, Netherlands Indies. The character of the papers presented to the Congress was of a very high order and some of the reports upon scientific work will no doubt rank among the epoch-making announcements in medicine during the present century; this is particularly true with regard to beriberi, carcinoma, cultivation of the lepra baccillus, the cause of infant mortality, and the successful treatment of surra.

The Philippine Government made an appropriation to defray the expenses of the congress and the delegates were officially invited by His Excellency the Governor-General.

The following resolutions were passed by the congress at the business session held in Baguio March 14, 1910:

BERIBERI.

Resolved, That in the opinion of this association sufficient evidence has now been produced in support of the view that beriberi is associated with the continuous consumption of white (polished) rice, as the staple article of diet, and the association accordingly desires to bring this matter to the notice of the various governments concerned.

QUARANTINE.

Resolved, That the Far Eastern Association of Tropical Medicine, appreciating the benefit which would accrue from concerted sanitary action on the part of eastern governments, be empowered officially to approach the following Governments, namely: Philippine Islands, Japan, Hongkong, French Indo China, Siam, Netherlands, India, Straits Settlements, and Ceylon, with the view, if possible, of obtaining their official support on the following lines:

1. To have a common standard for the term "epidemic," when making reports to, or imposing quarantine against, each other.

We suggest the following definition for consideration: Plague, cholera, smallpox, or yellow fever shall be considered to be epidemic, when, after the first telegraphic report of its occurrence, any weekly report thereafter shall show the occurrence of an average daily number of three cases.

2. To agree to notify each other's territories as infected, only when the infectious disease shall have assumed epidemic proportions as defined above; and automatically to withdraw such notification when the average number of cases for three successive weeks has fallen below the status epidemicus as above defined.

3. To circulate weekly returns of plague, cholera, smallpox, or yellow fever amongst each other, and also a telegraphic report on the first occurrence of any of these disease, in a clean port or territory.

4. To insist on a bill of health being carried by all ships, leaving a country declared to be infected, which intend to proceed in the port of another signatory; such bills of health to include a return of infectious disease for the previous forty-eight hours.

5. To report by telegram to the country concerned, the departure of an infected or suspected ship (as defined by the Paris convention) which may intend to proceed to any port in the territories of another signatory; and to indorse the bill of health of the said infected or suspected ship with a full account of measures taken to disinfect or otherwise deal with the said vessel.

OPIUM.

Report.—Your committee, appointed to consider the opium question, regret that the time at their disposal precludes the possibility of giving the subject adequate consideration.

They have reviewed the work done and the resolutions agreed on by the International Opium Commission, Shanghai, 1909.

With these resolutions your committee is in agreement, but it is to be regretted that the paucity of medical commissioners prevented the question being dealt with fully in its medical aspects.

Any measures which are introduced for the control of opium must be adequate to guard against the danger of secret remedies containing opium and opium derivatives being substituted.

They would suggest that the delegates from the various countries represented at this conference should be asked to arrange that the regulations controlling the sale of opium in their respective countries, as well as any observations they may care to make on this subject, be submitted to the next meeting of this association in 1912.

PLAGUE.

Report.—In our opinion the only practical measure concerning plague that we can recommend is the advisability of each country represented agreeing to notify to the other countries the occurrence of plague within their borders, the first case by telegram and afterwards by weekly returns.

TUBERCULOSIS.

Resolved, That the Far Eastern Association of Tropical Medicine should use its influence to cause the formation of a national antituberculous society in each political entity represented in the Far Eastern Association of Tropical Medicine. These societies to be formed along the lines of existing antituberculous societies in other parts of the world, yet revised to facilitate the work under local conditions.

LEPROSY.

Resolved, That—

1. Leprosy is to be regarded as a dangerous communicable disease.
2. Compulsory notification of all cases of leprosy to the authorities is essential.
3. Compulsory segregation of all cases of leprosy is necessary and preferably in special colonies constructed for the purpose.
4. The entrance of aliens afflicted with leprosy into a country must be prohibited.

There were eight scientific sessions held at which the following program was carried out:

FIRST SESSION.

Saturday, March 5, 1910.

Address of welcome, by the Hon. Gregorio Araneta, Secretary of Finance and Justice.

Address on behalf of the city of Manila, by the Hon. Felix M. Roxas, president of the Municipal Board.

Address, "The Tropical Sunlight," by the president of the association, Dr. Paul C. Freer.

SECOND SESSION.

PROTOZOÖLOGY HELMINTHOLOGY.

Statistical Studies of Uncinariasis among White Men in the Philippines. Maj. W. P. Chamberlain, U. S. Army.

The Common Fasciolopsis of Chehkiang. Dr. Francis N. Goddard, Shaohsing, China.

Unidentified Larvæ of some Dipterous Insect Developing in the Deep Urethra and Bladder. Asst. Surg. G. P. Trible, U. S. Navy.

The Role of Arthropoda in Man's Life in the Tropics. Mr. Charles S. Banks, biological laboratory, Bureau of Science.

Flies and Fleas as Factors in the Dissemination of Disease. The Effects of Petroleum as an insecticide. Dr. J. S. Purdy, Auckland, New Zealand.

Kala Azar. Maj. C. Donovan, I. M. S., Madras.

Treatment of Trypanosomiasis. Dr. Richard P. Strong, chief, biological laboratory, Bureau of Science, and Dr. Oscar Teague, biological laboratory, Bureau of Science.

THIRD SESSION.

CHOLERA, PLAGUE, LEPROSY, AND IMMUNITY.

Address, Dr. Francis Clark, medical officer of health, delegate from the government of Hongkong.

The Present Position of the Leper in View of the Resolutions Passed at the International Conference on Leprosy at Bergen, 1909. Sir Allan Perry, principal civil medical officer of Ceylon, Colombo.

Treatment of Leprosy. Mr. Moses T. Clegg, biological laboratory, Bureau of Science, and Maj. Eugene R. Whitmore, U. S. Army.

The Preservation of Vaccine Virus. Dr. E. H. Ruediger, biological laboratory, Bureau of Science.

Cholera and Other Similar Vibrios Encountered in the Philippines. Dr. A. J. McLaughlin, U. S. Public Health and Marine-Hospital Service, Bureau of Health.

Treatment of Asiatic Cholera. Dr. A. W. Sellards, biological laboratory, Bureau of Science.

Further Observations upon the Specific Treatment of Cancer. Dr. Arthur F. Coca, biological laboratory, Bureau of Science, and Dr. Philip K. Gilman, Philippine Medical School.

FOURTH SESSION.

SURGERY AND OBSTETRICS; DISEASES OF CHILDREN.

A Case of Congenital Absence of Both Upper Extremities. Dr. James Norwood, lieutenant, colonel, I. M. S., civil surgeon, United Provinces, India.

Operations for Liver Abscess with a Demonstration of a New Operation. Dr. John R. McDill, Philippine Medical School.

Clinical Remarks on 32 Abnormal Cases in the Obstetrical Department of the Philippine Medical School. Dr. Fernando Calderon, Philippine Medical School, and Dr. Victor Sevilla, Philippine Medical School.

Report of Cases Treated by Opsonotherapy. Dr. Henry Fitzbutler, biological laboratory, Bureau of Science.

Studies on Infant Mortality. Dr. A. J. McLaughlin, Public Health and Marine-Hospital Service, Bureau of Health, and Dr. Vernon L. Andrews, Biological Laboratory, Bureau of Science.

Contributions to the Physiology of Growth and Nutrition of Children in the Tropics. Dr. Hans Aron, Philippine Medical School.

FIFTH SESSION.

FEVERS IN THE TROPICS, INCLUDING MALARIA, TYPHOID, ETC.

A New Bacillus which is apparently an Etiological Factor in Conjunctivitis recently Observed in Singapore. Dr. Gilbert E. Brooke, delegate from the Straits Settlements, Singapore.

Malarial Fever in the Puerperium. Dr. John M. Atkinson, Victoria Hospital, delegate from the government of Hongkong.

The Parthogensis of the Female Cresent Body. Capt. H. M. Neeb, medical officer of the first class, delegate from Her Majesty's Government of the Netherlands Indies.

Myzomyia Rosii as a Malaria Carrier. Dr. W. T. de Vogel, chief medical officer, Semarang, Java.

Antimalarial prophylactic measures and their results at the Naval Station, Olongapo, P. I. Surgeon A. W. Dunbar, U. S. Army.

Incidence and Complications of Malaria in the Philippine Islands. Dr. Fred B. Bowman, biological laboratory, Bureau of Science.

The Incidence and Treatment of Malaria in Infants and Children. Dr. H. D. Kneedler, Manila.

Address, Doctor Staby, delegate from the Imperial German Government, Tsingtau.

Macroscopical Methods in the Typhoid Laboratory. J. R. Barber, first lieutenant, U. S. Army.

SIXTH SESSION.

DYSENTERIES; BERIBERI.

The Etiology of Beriberi. Dr. J. de Haan, delegate from Her Majesty's Government of the Netherlands Indies.

Etiology of Beriberi. Dr. H. Fraser, delegate from the government of the Federated Malay States, Kuala Lumpur.

Beriberi in Siam. Dr. H. Campbell Highet, delegate from His Imperial Majesty's Government, Siam.

The Incidence of Infantile Beriberi and Its Diagnosis. Dr. Jose Albert, Philippine Medical School.

Food and Metabolism in Beriberi. Dr. Hans Aron, Philippine Medical School.

The Bacteriology of Bacillary Dysentery in the Philippine Islands. Maj. Eugene R. Whitmore, U. S. Army.

Ipecac in the Prevention of Liver Abscess following Amœbic Dysentery. Dr. F. W. Dudley, Manila.

SEVENTH SESSION.

MISCELLANEOUS AND TUBERCULOSIS.

Statistics on Intestinal Parasites in the Philippine Islands, with Especial Relation to Intestinal Amœbæ. Dr. Y. K. Ohno, biological laboratory, Bureau of Science.

Mycetoma. Maj. A. Hooton, I. M. S., delegate from the government of India.

Infectious Diseases of the Intestine. Dr. Gorosaku Shibayama, delegate from His Imperial Japanese Majesty's Government.

Observations on Various Subjects of Tropical Medicine. Dr. Aldo Castellani, delegate from the government of Ceylon.

A Quick, Simple, and Accurate Method of Making Differential Blood Counts in Wet Preparations and its Advantages in the Diagnosis of Surgical and Tropical Diseases. Surgeon E. R. Stitt, U. S. Navy.

Tuberculosis Among Filipinos. (A) Study of 1,000 Cases. (B) Blood Pressure in the Tropics. Dr. W. E. Musgrave, biological laboratory, Bureau of Science, and Dr. Antonio Sison, Philippine Medical School.

Tuberculosis in the Philippines. Dr. Isaac W. Brewer, Medical Reserve Corps, U. S. Army.

Notes on Amœbæ at Baguio. Dr. F. W. Bowman.

EIGHTH SESSION.

CLIMATE, HYGIENE, AND SANITATION.

An Experiment with Orange-Red Underwear in the Tropics. Capt. J. M. Phalen, U. S. Army.

Unsolved Health Problems Peculiar to the Philippines. Dr. Victor G. Heiser, United States Public Health and Marine-Hospital Service, Bureau of Health.

Address on Climate, Hon. Dean C. Worcester, Secretary of the Interior.

The officers of the Far Eastern Association of Tropical Medicine for the first session were: Paul C. Freer, president; Francis Clark, general secretary-treasurer; James M. Phalen, local vice-president; Samuel C. Gurney, local secretary-treasurer; E. R. Whitmore, local acting secretary-treasurer.

The new officers for the second biennial session are: President, Dr. J. M. Atkinson, principal civil medical officer of Hongkong; secretary, Dr. Francis Clark, medical officer of health, Hongkong; local secretary-treasurer, Dr. Samuel C. Gurney, major, Philippines Constabulary; vice-presidents, Sir Allan Perry for Ceylon, Dr. Vassal for Indo-China, Dr. Stanton for the Straits Settlements, Dr. Victor G. Heiser for the Philippine Islands.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

As the Far Eastern Association of Tropical Medicine held its first biennial sessions in Manila this year, the regular annual meeting of the Philippine Islands Medical Association was limited to a single business session which was held in the Philippine General Hospital March 12, 1910, when the officers for 1909–10 were reëlected to serve for 1910–11.

Preparations are now being made for a scientific session to be held probably in February 1911 soon after the close of the Carnival.

THE MANILA MEDICAL SOCIETY.

This Manila Medical Society is an organization of the qualified physicians of Manila and of the medical officers of the public services. It holds monthly meetings at which scientific programs are presented. At present it is the only component society of the Philippine Islands Medical Association and consequently admits out-of-the city members.

The past year has been one of the most successful in the history of the society. It has undertaken the publication of a monthly bulletin with a full complement of editorships. In addition to the editor in chief and the managing editor, there are editors for the departments of medicine and therapeutics, tropical medicine, surgery, pathology, hygiene, biochemistry and bacteriology, medical economics, and medical entomology and zoölogy.

LEGAL OPINIONS ON SANITARY ORDERS.

Several opinions pertaining to health matters have been rendered during the year by the Attorney-General, the most important being that of December 27, 1909, on what constitutes a legal sanitary order and that of April 25, 1910, on the question of whether municipal councils are empowered to enact and enforce ordinances compelling the owners or occupants of property to keep the streets adjacent thereto clean.

In the opinion first mentioned he held that an order substantially in the following form should be served on the owner or tenant of insanitary premises:

OFFICE OF THE.....,
(Insert board of health of .....,
district health officer of .....,
or Director of Health for the Philippine Islands, as the case may be.)

.....
(Insert place of issue.)

....., 19.....
(Insert date.)

SANITARY ORDER.

To .....
(Insert name of owner or tenant of insanitary premises.)

You are hereby informed that ..... (give approximate location of premises; describe what has been found insanitary; as, the closet of the building located at 301 calle Real, San Juan del Monte) has, upon due examination, been found insanitary. Pursuant to ..... (name Act, ordinance, or regulation violated; as, Ordinance No. 10 of the municipality of San Juan del Monte), you are directed and ordered to .... (indicate what owner or tenant is to do; as, remove the said closet and establish in place thereof such a closet as shall be approved by this office). ..... days from date are allowed for the fulfillment of this order. Failure to comply within such period will render you liable to prosecution.

.....
(Official position of officer issuing order.)

Copy received: .....
(Insert date.)

.....
(Signature of owner, tenant, etc., of insanitary premises.)

With reference to compelling the owners or occupants of property to keep the streets adjacent thereto clean; it was held that if an ordinance to that effect were reasonable, general, and not unduly oppressive, it could be lawfully enacted and enforced.

THE COMMITMENT OF THE INSANE.

Pending the passage of a law for the commitment of insane persons, the following procedure has been outlined by the Executive Secretary for the guidance of all concerned:

Whenever it is desired that an insane person *who is not guilty of crime be* committed to the San Lazaro Hospital, a petition should be presented to the Court of First Instance having jurisdiction, for the appointment of a guardian for such person. The guardian so appointed should then apply to the Director of Health for the confinement of his ward in said Hospital. Upon advise from the Director of Health that accommodations are available, the insane person should be forwarded to Manila under proper guard, at either the expense of his estate, if any, or of the province or municipality concerned, if there be no estate, and delivered to the official in charge of the hospital, where he will be taken care of at the expense of the Insular Government.

An insane person accused of crime, should of course, be brought before the court having jurisdiction, to be dealt with in accordance with law.

Statistics with reference to the number of insane persons in the Philippines will be found in another part of this report.

LEGISLATION.

In addition to the general appropriation Acts, the Philippine Legislature passed the following laws that concern this Bureau. The first was Act No. 1975, entitled "An Act to provide for the establishment of classes for the instruction and training of male and female nurses under the supervision of the Director of Health."

This Act states in part that—

The Director of Health is hereby authorized, subject to the approval of the Secretary of the Interior, to establish classes of male and female Filipino students to receive instruction and training in nursing and hospital duties, said instruction and training to be given in the hospitals and sanitariums of the Bureau of Health and such other appropriate places as the Director of Health may designate and the Secretary of the Interior approve.

In order to be admitted to any of the classes provided for in this section, it shall be a requisite condition—

(*a*) To have completed the intermediate course in the public schools of the Philippine Islands and received a certificate therefrom; or

(*b*) To be able to give evidence by examination or in any other manner satisfactory to the Director of Health that the applicant for admission has received preliminary training of equal or greater extent.

The Director of Health, so far as consistent with the interest of the public service, shall select from amongst those persons jointly recommended by district health officers and division superintendents of schools, or in default thereof by provincial boards, students for the aforesaid classes from provinces organized under "The Provincial Government Act" and from the Provinces of Palawan, Mindoro, and Batanes, and the number of students selected shall not exceed thirty each year of each sex, nor one hundred in all of each sex: *Provided*, That in the admission of said students, the highest average obtained in the examinations referred to in subsections (*a*) and (*b*) of the next preceding section, shall be taken into account.

The Director of Health may admit private students under such conditions as may be approved by the Secretary of the Interior: *Provided, however*, That they shall receive no compensation or allowances other than subsistence, quarters, and laundry. Students who were appointed to the course in nursing under the provisions of Acts Numbered Eighteen hundred and seventy-three or Nineteen hundred and thirty-one or those who have been admitted to an analogous training class in the Bureau of Health are hereby declared to have been duly appointed under this Act: *And provided further*, That the Director of Education may, up to July first, nineteen hundred and ten, subject to the approval of the Secretary of Public Instruction, issue the usual certificates or diplomas to those students whose experience, conduct, and services entitling them to same, shall have pursued their studies or rendered services prior to July first, nineteen hundred and ten, for two complete terms or years or more, and a certificate or diploma so issued shall have the same value as if it had been issued by the Director of Health under the provisions of section three of this Act.

The course of study, period of probation, vacations, length of time required for graduation, granting of diplomas or certificates upon satisfactory completion of the course of training, rules of discipline, proportion of male and female students, rates of commutation for subsistence, quarters, and laundry, blank

forms, and preliminaries to admission except as hereinbefore provided shall be prescribed by the Director of Health subject to the approval of the Secretary of the Interior: *Provided, however,* That rules shall so far as possible be uniform for all students: *And provided further,* That no students shall be admitted who is suffering from any mental or physical defect or peculiarity that in the opinion of the Director of Health would disqualify him for the duties of hospital nurse or attendant, or whose moral conduct and antecedents are undesirable.

Students admitted under the terms of this Act shall receive quarters and laundry and adequate subsistence or commutation therefor at rates fixed as hereinbefore provided, in addition to an annual compensation of two hundred and eighty-eight pesos each as may be authorized by law: *Provided, however,* That the Director of Health may withhold such portion of their compensation, not to exceed one-sixth thereof, and deposit the same in the Postal Savings Bank to the credit of the student from whose allowance the deduction is made, for the purpose of purchasing such books and student equipment as may be necessary for him. Any unexpended balance shall be paid to the student upon graduation.

The next Act was No. 1981, entitled "An Act to provide for the establishment of a sanitarium at Sibul, San Miguel de Mayumo, Province of Bulacan, and for other purposes."

The construction of a sanitarium at Sibul, near the springs of the same name, situate in the municipality of San Miguel de Mayumo, Province of Bulacan, is hereby authorized and directed for the purpose of providing and maintaining an adequate service and to admit and provide accommodations for public officials and private parties. Subject to the recommendations of the committee hereinafter created, and to the approval of the Secretary of the Interior, the Consulting Architect shall prepare the plans for the said sanitarium and the Director of Health shall select the site of same.

There shall be at Sibul a resident physician, who shall be appointed by the Governor-General, with the advice and consent of the Philippine Commission, at a salary not exceeding four thousand pesos per annum. The said physician shall, in accordance with the orders and directions of the Director of Health, manage the bathing establishment, give advice, and if necessary, gratuitous attendance to the indigent sick, and have charge of the sanitarium when the same shall be constructed. The said physician shall designate the duties of the employees authorized and see that they properly perform the same and shall have in his charge, besides the sanitarium buildings of Sibul, such furniture, supplies, and other articles as he may receive for use in the said buildings. Pending the establishment at Sibul of a pharmacy he shall have in his charge the medicines sent him by the Director of Health and shall fill all prescriptions requested to be filled, for which services he shall collect a minimum charge of fifty centavos, and the proceeds from such services and all other funds that he may receive under this Act, shall be covered by him into the Insular Treasury.

This Act also carries an appropriation for straightening the esteros, the construction of a central park, public laboratory and closet at the springs; the opening and construction of streets, the erection of a pavillon and the improvement of the public highways.

The next Act was No. 1988, entitled "An Act making appropriations for public works and permanent improvements, and for other purposes."

This Act contains an item of ₱50,000 for the continuance of the construction of hospitals, bodegas, and additional houses to provide accommodations for lepers at Culion.

Act No. 1989, the general appropriation Act for the current years, makes the new Philippine General Hospital a division of this Bureau and provides for the abolishment of the Civil Hospital.

CEMETERIES.

Cemeteries outside of Manila are regulated by a special Act. while those in Manila fall within the legal prescriptions of the Sanitary Code of Manila, now incorporated in the Revised Ordinances.

The Bureau has also prepared and issued cemetery regulations which, having been approved by the honorable the Secretary of the Interior, as provided for in the Cemetery Act, have the force and effect of law. The regulations deal more especially with the proper administration of cemeteries while the law pertains more particularly to their establishment, continuance, and closure.

In settling cemetery matters it has been the policy of the Bureau to disregard personalities and political prejudices but they sometimes so obscure the facts that it requires the utmost caution to avoid becoming entrapped by the devices of factional quarrels.

Considerable progress has been made in the process of eliminating controversial petitions and voluminous correspondence by requiring that all applications shall be made on prescribed forms and that counterpetitions shall not deal in generalities.

Each application concerning cemeteries is made the object of personal investigation by the district health officer of the district to which it pertains.

During the fiscal year about 500 cemetery applications have been acted upon by this office, each case involving correspondence with the municipal council, the local health officer, the administrator of the cemetery, the district health officer and other interested parties. In the case of Catholic cemeteries, frequently correspondence is had with the bishop of the diocese in which such cemeteries are located.

In January of this year the following circular was sent out to all district health officers:

> It is desired that there shall be prepared and forwarded to this office not later than April 1, 1910, a list of the cemeteries in the respective districts showing the location of each cemetery by province, municipality, and barrio and stating the denomination of such cemeteries; that is, to what church, organization or ownership they pertain and whether they have been approved or not under Act No. 1458.
>
> This list should include both old and new cemeteries except those that are permanently closed and for which it can be positively stated that no application for their reopening will be made.
>
> By new cemeteries it is understood those that have been established since the passage of Act No. 1458, February 26, 1906.

From the replies received, a complete cemetery record is to be prepared and corrected from time to time as changes are made.

CEMETERIES IN MANILA.

The condition of the cemeteries in Manila have undergone great improvement during the past few years. The city cemetery known as the Cementerio del Norte, situated just beyond San Lazaro in the Province of Rizal, is one of the best-kept cemeteries in the Orient. The land has been filled in, sodded, and planted with trees.

The chief of the department of sanitation and transportation, who also has charge of the parks and of street cleaning, utilizes a portion of the cemetery as a nursery for the growing of trees for the parks and streets of Manila.

TRAINING SCHOOL FOR MALE NURSES.

For a considerable length of time it has been apparent that the necessity of having properly trained male attendants to take care of the male patients of all nationalities found in the Civil Government hospitals of the Philippines was a problem becoming more and more acute, and that at least an attempt at solution would shortly have to be made.

During the month of March of the present year, with the aid of the Bureau of Education, circulars of information with application blanks and credentials that had been prepared were sent to division superintendents of provincial schools, with most gratifying and unexpected results. In less than three months there were 229 eligibles on the waiting list. Accommodations being limited, the first class was started April 1, 1910, with 16 members. A few of the original number were released for various reasons and the vacancies immediately filled. Not any, however, have left of their own volition. A class of 30 will be organized September 15, 1910.

The aptitude with which these young men have taken hold of this entirely new and foreign work has amazed even the most sanguine supporters of the school.

It is confidently believed that there will soon be available a well-educated set of Filipinos, well trained both as nurses and sanitarians. It is intended to train them not only for hospital work but for the work of sanitary inspection and for positions on municipal boards of health. Since the transfer of the training school for female nurses from the Bureau of Education to the Bureau of Health, the two schools have been combined under Act No. 1975.

PHILIPPINE TRAINING SCHOOL FOR NURSES.

The training school for female nurses was organized under Act No. 1931 of the Philippine Legislature, and provided for a four years' course of training under direction of the Bureau of Education, the practical training being received in the Civil Hospital of the Bureau of Health. This division of training was soon demonstrated, however, as both impracticable and undesirable and by mutual agreement between the two Bureaus and by legislative authority the school was

transferred to the Bureau of Health April 18, 1910. The Bureau of Education agreeing however to give the students accommodation at the girls' dormitory with the excellent care and supervision which these *pensionadas* had always received there. It is hoped, however, that as soon as the Bureau of Education vacates the present Normal School buildings, that dormitories can be established for both schools.

A new class of 30 women students will be started September 15, 1910. On June 9 there were 40 eligibles awaiting appointment to this class.

The training school for nurses, though of necessity conducted in conjunction with the Government hospitals, and, therefore, under the direction of the Bureau of Health, actually represents an educational movement. It is virtually a work of health education or health instruction with so many inevitable but interesting ramifications that it can well be believed that it is possible that its good results in one form or another will have spread to the limits of the Archipelago within the present generation.

With the foregoing idea in view, it has been deemed advisable to modify the course originally outlined by the Bureau of Education, enlarge its scope, broaden the curriculum, raise the educational standard, and give less theory and more practice than formerly.

The object sought is to give a practical training that can be of use to the students at once in their homes whether they continue to follow their chosen profession or not. To apply the laws of hygiene and sanitation to ordinary living conditions of provincial life, to take care of the sick without expensive and unattainable hospital equipment, to prepare properly for the sick the food which is available in isolated districts and within financial reach of the poor, for it is along such lines that they must be educated if the work is to have a practical and far-reaching application.

A circular has been issued setting forth the various features of the school in detail. No arbitrary time has been set for the completion of the course of training. The elasticity of this arrangement is believed to be very desirable. Every three months' work must be satisfactorily completed or it must be repeated. By these means an apt pupil can get through in the prescribed time and not be handicapped by less apt classmates. The slower ones may be many months or a year longer in completing the same work, but no one can be graduated except with satisfactory standing. Proficiency in English is an emphasized feature.

The preparatory period provides for instruction in practical invalid cookery, serving of trays to the sick, practical marketing, computing the the cost of dietaries, etc.; the checking of linen supplies and accounts, marking, sorting, and mending of linen; household management, economy and cleanliness, embracing direction of servants, waste-can inspections, practical ways of keeping hospital equipment clean and in good

condition; supply-room service, with ordering, distribution, and checking of supplies, keeping of card systems in connection therewith; the making of hospital bandages and other appliances.

After the successful completion of the foregoing, pupils will be admitted to the wards and the first year's work divided approximately as follows: Medical wards, six weeks; surgical wards, ten weeks; pharmacy, six weeks; dispensary, six weeks; emergency and surgical-dressing room, six weeks; operating room, eight weeks; for female nurses, maternity wards, eight weeks; for male nurses genito-urinary ward, four weeks; office, four weeks; vacation, two weeks. Total fifty-two weeks.

The senior year will be divided approximately as follows: Private wards, six weeks; contagious, six weeks; nervous and insane, four weeks; orthopedic, four weeks; X-ray, three weeks; hydrotherapy, 3 weeks; tuberculosis, six weeks; visiting nursing, eight weeks; special nursing (private cases) six weeks; for female nurses, children's day nursery, three weeks; for male nurses, office, three weeks; vacation, three weeks. Total fifty-two weeks.

Students will be urged to take post-graduate courses along lines for which they have displayed unusual ability or interest. For the young men these courses will embrace public lecture work, school instruction, sanitary inspection, municipal health work, etc. For the young women they will include lecture work, school-instruction ward, hospital administration, and visiting nursing.

If the work can be carried out along the lines planned for, it is believed that it will be one of the most far-reaching and useful branches of educational work yet put before the Filipino people. The enthusiasm with which it has thus far been greeted by those truly interested in the progress of the country has been most encouraging.

DISTRICT FREE DISPENSARIES.

It is sincerely to be hoped that with the adoption of the training school for nurses, a new and much-needed work may be definitely started in Manila within the coming year. The establishment of the dispensaries in thickly populated quarters of the city where not only the sick can come for medicines but where the sick and well can come for instruction and information regarding questions of hygienic living. These dispensaries should be under the supervision of American nurses but with the actual work done by pupil nurses. The work should include lectures on certain days given in the native dialects, concerning the subject of tuberculosis, beriberi, cholera, dysentery, hookworm, and other diseases prevalent among the people. It should include demonstrations in the bathing, feeding, and care of the sick, with simple instruction in elementary nursing and emergency treatments; it should include cooking of native foods for the sick and well; it should particularly deal with maternity cases, tending to abolish and discredit the superstitious and

inhuman practices now in vogue, with simple demonstrations and talks as to hygienic and proper procedure in such cases. Particularly should it deal with the proper feeding of infants, and in this connection experiments with goats' milk for infant feeding might well be demonstrated to the mothers, with comparative statements as to cost, nutritive and digestive properties in comparison with other milks and foods.

In all features of this work, no more equipment in the way of utensils and materials should be used for instruction than is to be found in the ordinary nipa shacks of the poor. To adapt modern and sanitary principles to actual conditions should be the aim.

Visiting nursing should be done to some extent if only to keep the health officials informed as to where disease is lurking, where prospective maternity cases are waiting, and whenever possible to induce these patients to enter the hospitals where they can be properly treated. If homes were regularly visited and inspected by nurses for cases of insanitary practices, neglect of premises and interiors, and if suggestions were tactfully given for the improvement of the same by one of their own nationality, it is believed that the effects would more quickly be felt and seen than by any other method.

NATIVE FOOD PRODUCTS.

In roughly planning the curriculum of dietetics, instruction for the nurses' training school and also in planning a self-supporting tuberculosis camp where educated Filipinos might be cured by hygienic and prophylactic measures, consisting principally of simple nutritious feeding, the question at once presented itself, Can the sick (and the well) of these Islands be adequately nourished if expensive canned goods are eliminated from the dietaries? Preliminary investigation was made principally among those teaching domestic science in the public schools, but it was found that very little use was made of native food products there, and that no one person seemed to have much information on the subject. Further effort was then made and with the generous assistance of several persons in the Bureaus of Science and Forestry, a very surprising and creditable list of native food products, both vegetable and animal, was compiled. This is by no means completed but is constantly to be added to.

The work was most interesting and led to the preparation of a series of papers read by the supervising nurse, Miss McCalmont, before the Teachers' Assembly at Baguio during the last week of April, 1910. The purpose was to interest the teachers in teaching along more practical lines, to show them how dietaries could be balanced, made nutritious, and kept within financial reach of the poorer classes. The teachers were urged to abandon the present methods of teaching the cooking of elaborate cakes, pastries, and of expensive American dishes, substi-

tuting the preparation of native foods which are available and comparatively inexpensive in the provinces.

Charts were shown (the valuable work of Dr. Hans Aron, of the Philippine Medical School) setting forth a number of balanced dietaries, demonstrating how a satisfactory diet may be secured for 10 centavos a day with considerable variety in the diet.

Other charts were exhibited showing a long list of native animal and vegetable foods, giving of the latter the common name, the botanical name, the Tagalog or Visayan name, after which a brief description of each was read, giving the general nutritive value, the habitat, and various methods of preparation.

It is the intention to develop this work and later publish a simple book of recipes in several of the most general native dialects, giving balanced dietaries, showing the cost and proper preparation of foods suitable for families of varying incomes. The work would have to be based upon scientific principles, so hidden, however, that it would only reach the person for whom intended in a most simple and practical form. Economy of fuel should also be made a feature with practical demonstration of the fireless cooker—an easily made and inexpensive contrivance within reach of the poorest.

STUDIES IN INFANT MORTALITY.

The excessive infant mortality of Manila has been an acknowledged fact for years. Various causes have been assigned and various remedies suggested.

The essential thing was to study the alleged factors of this mortality and find out the real causes. During the past year, work along this line was undertaken by Dr. Allan J. McLaughlin, Assistant Director of Health, and Dr. Vernon L. Andrews, assistant professor of pathology, Philippine Medical School.

Their results which were presented before the Far Eastern Association of Tropical Medicine in March, 1910, throw new light upon the real factors of infant mortality and in view of the paramount importance of this question it seems advisable to print their article in full under its original title, "Studies in Infant Mortality":

The death rate among Filipinos in Manila, as shown below, is excessive compared with that of other nationalities, after making due allowance for the higher birth rate, greater proportion of children, and other factors.

TABLE I.—*Death rate in Manila by nationalities, per thousand, during the year 1909.*

	Per cent.
Spaniards	12.05
Americans	13.27
Other Occidentals	14.32
Chinese	16.64
Filipinos	47.65

This enormous death rate is due to the high mortality of children. Of 9,307 deaths among the Filipino population, 6,041, or 64.9 per cent, were of children under 5 years of age, and 4,512, or 48.8 per cent, were of infants under 1 year of age.

TABLE II.—*Rate of infant mortality to total number of deaths.*

Total number of deaths, all ages	9,307
Total number of deaths under 5 years	6,041
Total number of deaths under 1 year	4,542
Rate of deaths under 1 year to total number ..... per cent	48.8

Compare this infant mortality with that of other countries and the result is striking. According to the United States census of the year 1900, the deaths of children under 1 year constitute 18.28 per cent of the total mortality; in France, from 1896 to 1900, the infant mortality constituted 20 per cent of the total, but in Manila the deaths of infants under 1 year aggregate 48.8 per cent of the total number.

TABLE III.—*Rate of deaths of children to total number of deaths, in percentage.*

	Per cent.
United States	18.28
France	20.00
Manila	48.8

In order to combat intelligently this appalling infant mortality, it is essential to determine accurately what diseases really constitute the greatest factors and these investigations were undertaken with that end in view.

According to the statistics of the Bureau of Health, the main factors in child mortality for the fiscal year 1908–9, a fairly representative year, were the following:

TABLE IV.—*Factors in the mortality of children in Manila.*

Cause of death.	Numer of deaths of children under—	
	1 year.	5 years.
Convulsions	1,615	1,615
Congenital debility	596	596
Beriberi	595	629
Acute bronchitis	569	689
Acute meningitis	287	510
Enteritis	286	745
All other causes	594	1,257
Total	4,542	6,041

It was necessary to verify these statistics. The figures for the total number of deaths were undoubtedly correct, but the causes given in the death certificates were demonstrated frequently to be incorrect and indefinite.

In a previous paper, one of us presented some observations upon cholera in children during the period from August 1 to September 25, 1909, and among the conclusions deducted from those observations were the following:

"1. Cholera in children is often unrecognized and unreported as such, the

diagnosis being reported as acute or chronic enteritis, gastroenteritis, enterocolitis, dysentery, acute or simple meningitis and probably also as infantile beriberi, convulsions of children, and some other forms of disease.

"2. Cholera in children is often atypical, and in these cases diagnosis is extremely difficult, if not impossible, without bacteriological examination of the intestinal contents.

"3. Cerebral manifestations in children suffering from cholera are very common and their severity is in inverse to the age of the child.

"4. Acute meningitis is a very rare disease in Manila, in spite of statistics.

"5. The percentage of children attacked by cholera is higher than is shown by statistics."

In our work we are able to confirm the conclusions expressed above in regard to meningitis and cholera, and to present additional data bearing upon infantile beriberi, convulsions of children, enteritis, bronchitis, and broncho-pneumonia. The clinical history as gleaned from the family or attending physician is given in the tables. These histories are meager and are not always reliable, owing to the fact that the case is often seen late in the disease and to the difficulty of getting correct data from the family. However, it is unlikely that all the histories are unreliable, particularly as the unanimity is so marked.

In all cases of meningitis, beriberi, convulsions, and bronchitis the necropsy findings are given. In the cases of enteritis and dysentery, necropsies were not performed in every instance, and confirmation of the diagnosis of Asiatic cholera was secured by bacteriologic examination of the intestinal contents at the Bureau of Science.

ACUTE MENINGITIS.

The following table shows the deaths from acute meningitis in Manila by months for the past nine years:

TABLE V.—*Acute meningitis in Manila from 1901 to 1909, inclusive.*

Month.	1901	1902	1903	1904	1905	1906	1907	1908	1909
January	26	21	17	25	28	22	23	78	33
February	24	21	14	26	16	23	23	92	32
March	56	28	17	24	26	30	22	44	34
April	21	25	14	25	34	32	28	31	27
May	29	50	30	32	24	35	37	35	24
June	22	54	13	47	27	40	23	45	48
July	15	34	17	51	31	95	27	98	31
August	27	39	36	40	34	70	34	64	40
September	33	25	43	49	58	40	53	62	27
October	28	34	41	50	32	25	58	54	4
November	25	29	33	30	24	26	43	46	2
December	25	32	26	36	24	30	50	45	3
Total	331	392	301	435	358	468	421	689	305

Average number of cases per year, 410; average number of cases per month, 34.

These statistics cover nine full years, and from them it will be noticed that the average number of deaths from meningitis in Manila was about 410 per year, or 34 per month. The investigation by necropsy of children dead from alleged meningitis began the last week of September, 1909. The number of deaths from meningitis recorded for October dropped to 4, for November to 2, and for December to 3.

Table VI shows the cases of alleged acute meningitis which came to necropsy, together with the clinical data and pathologic findings.

The following is a summary:

Summary of Table VI.

Acute meningitis	2
Pneumonia	2
Empyema	1
Beriberi	10
Cholera	18
Undetermined (not meningitis)	3
Enterocolitis	1
Total	37

ACUTE ENTERITIS AND OTHER DIARRHEAS.

Table VII gives an analysis of a number of cases of alleged enteric disease.

We wish to emphasize the fact that diagnosis in these cases was difficult, or impossible from the clinical symptoms and that the examination of the intestinal contents should be compulsory in all children acutely sick in Manila. In these instances the classical symptoms of cholera were either absent or overlooked, because of their transient character. Sometimes the choleraic signs present were masked by intercurrent diseases and the predominance of cerebral manifestations.

Summary of Table VII.

Cholera	15
Beriberi	2
Pneumonia	2
Enterocolitis	3
Total	22

INFANTILE CONVULSIONS.

The diagnosis "infantile convulsions" should not be accepted as a cause of death. It is only a symptom of some specific disease and has no more right to a place in statistics than fever or chills. Table VIII, shows the results obtained from investigations by necropsy of cases of alleged infantile convulsions, with clinical data and pathologic findings.

Summary of Table VIII.

Beriberi	31
Cholera	4
Pneumonia	1
Enterocolitis	1
Empyema	1
Cerebral hæmorrhage	1
Undetermined	1
Total	40

The importance of securing correct diagnoses in the cases reported as dying of infantile convulsions is at once evident in view of the fact that 35 per cent of the total mortality under 1 year is given on the death certificates as being due to this cause. In accepting these reports we admit that the real cause of 35 per cent of the mortality in Manila of infants under 1 year of age is unknown to us.

BRONCHITIS.

Table IX shows the results of necropsies on 27 cases in which the death certificate gave acute or chronic bronchitis, or broncho-pneumonia as the cause of death. Some of the bodies were in bad condition when they came to autopsy, owing to warm weather supervening and the difficulty of transferring them to the morgue with sufficient promptness.

Summary of Table IX.

Beriberi	14
Pneumonia	6
Meningitis	2
Nephritis	2
Chronic colitis	1
Acute tonsilitis, pharyngitis, and bronchitis	1
Undetermined	1
Total	27

INFANTILE BERIBERI.

Table X gives the results in cases of alleged infantile beriberi. The first cases of so-called infantile beriberi which we investigated in November proved to be of Asiatic cholera, and we were at that time somewhat doubtful of the existence of the former disease in infants and rather expected that our experience with alleged acute meningitis would be repeated. Further study showed that a large number of infants die of a disease which presents a definite pathologic picture for which we know no better name than "moist beriberi."

Summary of Table X.

Beriberi	40
Cholera	3
Broncho-pneumonia	3
Enterocolitis	1
Undetermined	3
Total	50

In the pathological entity which we have called "beriberi" we come face to face with one of the real factors in Filipino infant mortality. This disease is responsible for many more deaths than would appear to be the case from statistics. We have found not only that many instances of alleged congenital debility and convulsions are due to beriberi, but also acute bronchitis and pneumonia. It is our opinion that the two diseases last mentioned are not common, and an investigation of deaths from acute bronchitis and broncho-pneumonia shows many of them to be due to beriberi.

The clinical symptoms of dyspnoea and cardiac embarrassment are often responsible for a diagnosis of bronchitis, or broncho-pneumonia, when the necropsy reveals the picture of beriberi. While we recognize the fact that bronchitis is a disease of childhood and old age, we hardly think that the figures as given in Table IV for bronchitis state the truth. It seems to us that the number of children under 1 year is too large and that the difference between 1 year and 5 is too small. True, it is in early infancy that the disease is most marked and it is

more prevalent in squalid homes and among poorly nourished infants than elsewhere, yet we doubt if this would account for the figures as given.

A summary of the 176 cases studied is given in Table XI.

TABLE XI.—*Showing the number of cases investigated, together with clinical diagnoses and necropsy findings.*

CLINICAL DIAGNOSES.		NECROPSY FINDINGS.	
Meningitis	37	Cholera	40
Enteritis	22	Beriberi	97
Convulsions	40	Pneumonia	14
Beriberi	50	Enterocolitis	7
Bronchitis	27	Meningitis	4
		Nephritis	2
		Empyema	2
		Acute tonsilitis, pharyngitis and bronchitis	1
		Cerebral hemorrhage	1
		Undetermined	8
Total	176	Total	176

The great discrepancy between the clinical diagnoses and the autopsy findings can partially be explained by the fact that in many instances the native doctor is not called to see the patient until the latter is moribund, or, in some cases, until after death, and the family want a death certificate signed.

In 1898 and 1900, Professor Hirota, of Tokyo, described a disease found in some infants brought to his clinic, which he called infantile beriberi. A few years later, 1905(?), the native doctors of Manila and the Philippines accepted Hirota's findings and began signing death certificates giving the cause of death as infantile beriberi. So far as the writers know, no effort was made by the native physicians to establish by necropsy any relation between the findings of Hirota in Tokyo and the disease called infantile beriberi by the Filipinos. For some reason, the subject has never been taken up by the American physicians in the Islands, owing, possibly, to the fact that they do not come in contact with the poorer Filipinos, and hence are never called upon to treat them. In the various hospital dispensaries the children are looked after by the native doctors. A number of Filipino physicians have recognized the condition here and one has described a typical case with necropsy.

In the pathologic entity which we have termed "infantile moist beriberi," and for which we know no better name, we find the following conditions:

The body is that of an apparently well-nourished infant, plump; skin is usually pale and anæmic. The face is full with almost a swollen appearance. Flesh of thighs and legs is soft and flabby and, as a rule, pits on deep pressure. Occasionally the skin has a tough, leathery feel, a leaden color, and a slight goose-flesh appearance.

Subcutaneous fat is present, apparently in good amount, grayish-white in color and very moist; muscles are anæmic. Owing to the œdema, the real amount of fat present is deceptive and hence the bodies may not be as well nourished as they appear.

Most often there is an increase of peritoneal fluid, which has a distinct yellowish color.

Heart.—The pericardial sac is filled with a clear fluid, having a greenish tint. Probably the most striking and constant change is found in the right heart. Its musculature is coarse and firm and forms much the larger part of the organ, even in the contour of the apex. Its trabeculæ and papillary muscles are prominent, while its cavity is enlarged. The wall of the right ventricle may measure from 5 millimeters to 7 millimeters in thickness, whereas the left measures only 3 millimeters to 5 millimeters. The musculature of the left heart is soft and flabby and darker than that of the right. The blood vessels of the heart are congested and prominent and frequently a few hæmorrhages show along the auriculo-ventricular junction. In many cases the foramen ovale is still patulous, but is competent.

Lungs.—These organs are a light pinkish-gray anteriorly and a light purplish-gray posteriorly. They fill the pleural cavities and crepitate throughout. The anterior part of the lung is lighter and more fluffy than the posterior. Few or many petechial hæmorrhages may show beneath the visceral pleura, especially along the junction of the lobes. Occasionally there is a slight increase of the pleural fluid.

A cut section shows a pinkish-gray surface, which may or may not exude some blood. Air can be expressed from all portions of the lung and usually also a slight amount of œdematous fluid. The posterior part of the lung is of a darker color and is heavier than the anterior and more fluid can be expressed from it than from the anterior part. The bronchi do not appear to be hyperæmic, but contain more or less frothy material and mucus. Sometimes this can be expressed from the smaller bronchi.

Spleen.—This organ may be very hyperæmic and show slight increase of splenic tissue, partially obliterating the normal markings.

Kidneys.—The kidneys are of a reddish-gray color, fœtal lobulations are prominent. A cut section is very moist and a considerable amount of blood oozes from it. Striations of the cortex are plainly seen. Except for congestion, the kidneys, in the greater number of cases, present a normal appearance. Occasionally a slight degree of albuminous degeneration or a few subcapsular hæmorrhages occur. The adrenals show congestion.

Liver.—The liver is dark reddish-brown in color and firm. Section shows congestion and rarely a slight "nutmeg" appearance is seen. The lobulations are usually clearly defined. Here, also, we may find some albuminous degeneration.

Stomach.—The stomach nearly always contains some curdled milk and mucus. The mucosa is smooth and anæmic. No rice or other artificial food was found in the stomachs of any of the cases; sometimes there is a trace of fæcal material present.

Intestines.—They are normal in appearance. The intestinal contents are semiliquid, apparently digested and have a yellow color. The mesenteric glands may be slightly enlarged and soft.

Urinary bladder.—It may or may not contain urine.

Throat organs.—Except for some froth and mucus present in the larynx and trachea, these organs are normal.

Thymus.—The thymus is usually prominent and full. Some milky fluid can almost always be expressed from the cut surface.

Meninges and brain.—The meninges are congested and œdematous, and there is usually an increase of the cerebrospinal fluid. The brain substance may be of normal consistency, or soft and very moist.

Many of the bodies were not subjected to necropsy until twenty-four or thirty-six hours after death, because of our inability to transport them to the morgue at a sufficiently early time, and in this warm climate decomposition very

rapidly sets in. However, in the above description of the gross pathology three points are prominent: First, the dilated and hypertrophied right heart; second, the congestion of all internal viscera; third, the anasarca. The two last conditions naturally follow the first, and we turn to the lungs for a possible explanation. Microscopically they present a varied condition, being in part emphysematous and the more dependent portions being heavily congested, with the alveoli filled with epithelial cells, leucocytes, and granular œdematous material. In some places small hæmorrhages have occurred and the red cells are found in the alveoli and tissues.

In this paper we do not attempt to give the etiology of the condition. A microbic origin for it is not excluded, as we have not been able to enter upon this phase of the investigation because of the length of time elapsing between the death of the patient and the time of necropsy, and the press of other work; but if the condition is of microbic origin, its manifestation is entirely different from that produced by other organisms that we know. There is no inflammatory focus in the lungs or elsewhere.

Clinically, the cases were not seen by either of us, and all the information we have was obtained by the medical inspectors and is contained in the tables. The inspectors give the history that the patient is sick but a few hours, or, at most, but a day or two. The parents, however, do not recognize that the child is ill until its condition is very serious or until it is almost dead. The probability is that it has been ailing for some time, possibly since its birth.

Nearly all the infants examined were under 2 months of age, and but few were above 2½ months old. Almost without exception they were breast fed, and in no case was rice or other artificial food found in the stomach. The mothers in nearly all instances exhibited some symptoms of beriberi. Many of them give the history of having two, three, or even five or more children die from similar symptoms. The disease is well known among the native poor, who call it "taon" or "suba" (probably the latter is the more common name), and who dread it very much.

In a careful analysis of the pathologic findings by necropsy in a series of 219 infants dying under 1 year of age, we found the above-described condition, which, for want of a better term, we have designated as "moist beriberi," to be present in 124 cases. The following summary gives an analysis of all of those cases.

Table showing results of necropsies on 219 infants 1 year of age or under.

Beriberi	124
Cholera	33
Pneumonia	18
Meningitis	6
Enterocolitis	6
Other diseases	20
Undetermined [1]	12
Total	219

This table includes all the cases discussed in the preceding investigations under the headings meningitis, enteritis, convulsions, bronchitis, and beriberi, excepting a few cases of meningitis over 1 year of age, which were excluded. The

[1] In some of the undetermined cases the findings were obscured by post-mortem decomposition; other bodies were greatly emaciated and death seemed to be due to a lack of assimilation of food.

total was increased by including some necropsies made during March and April, after the other investigations were concluded.

The table indicates that "beriberi" (?) is the largest factor in the infant mortality of Manila, and the existence of this factor accounts in great measure for Manila's excess in infant mortality over that of other countries, as shown in Table III. Cholera appears because the investigations were begun during a mild epidemic of that disease in Manila. Tubercular meningitis was found twice and tuberculosis of the lungs once. This does not indicate the measure of the prevalence of tuberculosis among Filipino infants, as deaths from this disease were not investigated.

GENERAL CONSIDERATIONS.

The infant mortality of Manila presents a striking contrast to that of other cities. The deaths of breast-fed children constitute 73.74 per cent of the total infant mortality; furthermore, 87 per cent of infants dying of beriberi and convulsions in Manila are breast fed. The following table shows the figures as compiled in the Bureau of Health for the year ending February 25, 1910:

TABLE XII.—*Showing per cent of deaths among breast-fed infants under 1 year, by disease.*

Disease.	Number of certificates stating how fed.	Number breast fed.	Per cent of breast fed to total reported on.
Beriberi	473	417	88.1 +
Convulsions	872	763	87.5
Acute bronchitis	615	469	76.2 +
Congenital debility	381	218	57.2 +
Meningitis	134	75	56 —
Enteric disease	201	70	34.8 +
Other diseases	722	494	68.4 +
Total	3,398	2,506	73.74+

In Munich, of 4,000 dead infants during 1903, 83 per cent were artificially fed; in Berlin, in a period of five years, only 9 per cent of the infant mortality occurred in breast-fed babies.

TABLE XIII.—*Showing per cent of total infant mortality which occurs in breast-fed and artificially fed infants in different cities.*

City.	Breast fed.	Artificially fed.
	Per cent.	*Per cent.*
Berlin	9	91
Munich	17	83
Manila	73.74	26.26

Tugendreich states that in 64 families with 388 breast-fed children there had been 77 deaths, a mortality of 19.8 per cent. On the other hand he found that 33 families with 229 bottle-fed children had 99 deaths, a mortality of 43.2 per cent. Twenty-four of the 64 families with 109 exclusively breast-fed children escaped without a single death, while not one of the 33 families with bottle-fed children escaped without the loss of at least one child. In other countries the mortality among breast-fed infants is very low.

In Germany, France, or the United States a breast-fed infant means a healthy infant in 90 per cent of the cases, because the mothers in those countries are usually healthy and well nourished. In the Philippines the mortality is greatest among breast-fed children, possibly because of the poor quality of the mother's milk. The latter is probably deleterious by reason of what it lacks rather than because of any harmful constituent. The average Filipino mother is in poor physical condition, many of them have beriberi and subsist upon a diet favorable to beriberi. It seems probable that there is an intimate relation between beriberi of infants and a mother's milk poor in quality and lacking certain necessary elements which are not included in the mother's dietary. At first glance it might seem advisable to supplant breast feeding by artificial, but under existing conditions this would be a blunder. The children saved from beriberi would be sacrificed to enteric diseases. That small part of our infant population which is artificially fed furnishes 65 per cent of the deaths from enteric diseases, and the breast-fed, much the larger part of the population, furnishes but 35 per cent of the infant mortality from this cause; so that even in Manila, breast-feeding of infants exerts a deterrent influence upon the mortality from gastro-intestinal diseases. A possible solution of the problem lies in improving the quality of the mother's milk and encouraging the continuance of the custom of breast-feeding so general among the Filipino poor. The improvement of the physical condition of the Filipino mother and of the quality of her milk is an economic question. Her condition is the result of poverty and therefore insufficient and unsuitable food, especially during the periods of pregnancy and lactation.

However, it must be remembered that the etiology of this disease is unknown. Clinically, the cases must be observed by competent men under favorable conditions where a complete clinical record can be made. The sick ones should be taken to a hospital where they can be studied carefully and all laboratory and biologic tests applied. The careful examination of all body fluids and excreta, biologically and chemically, is imperative. Further, the possibility of an ultramicroscopic organism must not be overlooked, neither should the internal secretions be forgotten. At the same time, a thorough chemical and biologic examination of the mother's milk is essential. At death a quick necropsy with complete biologic examination must follow. This would also give material for thorough histologic study, which has been impossible so far because of post-mortem changes.

The writers wish to extend their thanks to Dr. H. Winsor, of St. Paul's Hospital, for performing some of the autopsies.

BIRTH RATES.

In the city of Manila, the American birth rate was 22.99 per thousand. These are the only birth records that may be accepted for their full value. When the number of unmarried American men in the Government service is taken into consideration, it will be seen that there is no marked tendency toward race suicide on the part of American families in Manila.

The following rates, which are all probably less than they should be, are reported for the other nationalities:

Filipinos, 45.87; Spaniards, 16.93; Europeans other than Spaniards, 29.50; Chinese, 2.83.

The general rate based on the reported figures is 42.29 per thousand.

While great improvement has been made the facilities for obtaining prompt and accurate information concerning births are still inadequate. A few years ago the reported rate among Filipinos was always less than 30 per thousand. For the present year it is nearly 46 which is considerably below the true figures.

BERIBERI.

Several of the late quarterly reports of the Bureau of Health have shown that Fletcher and others in the Malay Peninsula brought forth considerable evidence that rice that was heated with water before being husked did not produce beriberi, while the ordinary machine-hulled or so-called Siam rice did apparently produce the disease.

Recently the work of Fraser and Stanton in the Straits Settlements and almost coincidently that of Aron, of the Philippine Medical School, have shown that outbreaks of beriberi may be caused by the continuous consumption of polished rice, and that is probably due to the fact that much of the phosphorous that is present in the pericarp is polished away in the milling process and thus the human organism is deprived of a requisite amount of this element. This after being experimentally confirmed in chickens, was later confirmed in human beings by feeding polished and unpolished rice to a group of railway workers in the Straits Settlements.

The group of men that partook of the No. 1 polished white Siam rice developed beriberi within a period of approximately sixty days, while the group that partook of unpolished rice remained free of the disease. Every effort was made by interchange of clothing, by contact, and by living in the same houses, to convey the disease to the group that partook of the unpolished rice but not a single case developed. The process was then reversed. The group that partook of the polished rice were changed to the unpolished rice and vice versa, and within a period of approximately sixty days the group partaking of polished rice developed beriberi. These experiments were further confirmed in Manila by the use of rice polishings in the treatment of beriberi patients, who showed immediate improvement in their condition and, except when the disease was too far advanced, promptly recovered.

By the application of the knowledge thus obtained an outbreak of beriberi at the Culion leper colony which had resisted the ordinary method of treatment was completely eradicated in a few weeks' time. Similar results were reported by Doctor Highet, of Siam, and Doctor de Hann, of Java, using the same treatment.

The foregoing facts were presented in brief form to the honorable the Secretary of the Interior with the recommendation that His Excellency the Governor-General be asked to issue an executive order prohibiting the use of polished rice as a staple article of diet in Government

institutions. This recommendation was favorably acted upon by the Governor-General and the following executive order issued:

EXECUTIVE ORDER No. 37.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU,
Baguio, May 4, 1910.

In view of the fact that the Director of Health has reported to the undersigned that for some years past considerable experimental evidence that beriberi was caused by the consumption of certain kinds of rice has become available, and that at the recent meeting of the Far Eastern Association of Tropical Medicine held at Manila Doctors Fraser, and Stanton, Kanla Lumpur; Aron, of the Philippine Medical School; and Highet, of Siam, produced additional evidence that showed almost conclusively that beriberi can be caused by the continuous consumption of polished rice, and in view of the further fact that much beriberi has been encountered in the past in Government workshops, in prisons, and in other public institutions; upon the recommendation of the Director of Health and the honorable the Secretary of the Interior the use of polished rice in all public institutions is hereby forbidden.

All Insular, provincial, and municipal officials having control of public institutions, such as workshops, prisons, and so forth, are hereby directed to see that the provisions of this executive order are complied with in the institutions under their control.

W. CAMERON FORBES,
Governor-General,
By THOMAS CARY WELCH,
Acting Executive Secretary.

It is hoped by the means of this order not only to eradicate the disease from such places but also that it may serve as an educational factor in disseminating knowledge as to the methods by which beriberi may be avoided.

The theory that beriberi is caused by the continuous consumption of polished rice as the staple article of diet has received further confirmation from the recent experience at the Culion leper colony. Since the opening of the colony in 1906 good grades of polished rice were always used, and beriberi has been more or less constantly present during the entire time that the colony has been in existence. From time to time adding more meat and vegetables to the rations and reducing the amount of rice improved the situation and the disease almost completely disappeared but its complete elimination did not seem to be possible until the use of polished rice was entirely discontinued. As stated in the quarterly report for the first quarter of 1910, during the month of March the use of red rice or "pinawa" was begun and beriberi had practically disappeared by the end of the quarter. The use of the same kind of rice has been continued and it is satisfactory to report that at the close of the fiscal year the disease has completely disappeared among the regular inmates of the colony. A few cases have been encountered but they occurred among persons who had but recently been transferred to Culion.

CHOLERA.

On account of the great importance of cholera in the Philippine Islands and as the experience of Professor Haffkine corroborates the findings of the Bureau of Health in September and October, 1908, at Bilibid Prison in showing the importance of the bacilli carrier, it is deemed advisable to reproduce the following statement made by the Indian Government on an outbreak which occurred at the Presidency General Hospital in Bengal:

THE HOSPITAL CHOLERA—GOVERNMENT STATEMENT.

1. *Cause of outbreak.*—The following press communique has been issued by the government of Bengal municipal department, medical branch, regarding the recent outbreak of cholera at the Presidency General Hospital.

2. The first case of cholera (that of a nurse) was reported on the morning of the 30th July, and 11 cases in all occurred on that day and 2 on the morning of the 31st. Six deaths resulted among the nursing staff, while 3 patients (children) in the Alexandra ward and a sweeper also succumbed to the disease. All the cases occurred within thirty hours of the first attack, and so virulent was the infection, that in the fatal cases death ensued as a rule in less than twenty-four hours, even though treatment was commenced immediately. The disease subsided as suddenly as it arose. No case occurred after midday on the 31st, nor did the infection spread to any patients outside the Alexandra ward.

3. On the morning of the 31st Mr. Haffkine, with the assistance of Captain Clemesha, I. M. S., deputy sanitary commissioner, and Doctor Pearse, health officer of Calcutta, conducted a searching inquiry into the circumstances of the epidemic, and Mr. Haffkine has subsequently made a laborious examination of the various samples of food, etc., which were then collected.

4. *Nurses' meals.*—In order that the course of the inquiry may be understood, it is necessary to describe the arrangements made for the nurses' meals.

There is a central kitchen attached to the nurses' quarters, and in this all the food supplied to nurses is cooked. Owing to the exigencies of night duty two dinners are served on some days, one at 3 p. m. for those who will go on night duty and one at 7 p. m. for those on duty in the wards or resting in the quarters. These two meals are, as far as possible, cooked at the same time; that is, puddings, soup, etc., are made in one batch for the two meals. The meals for the nurses in the quarters are served in the nurses' dining hall, while those for the nurses on duty are carried over to the dining rooms in the main block or in the Woodburn ward, and served there. The 3 p. m. dinner and the 7 p. m. dinner in the nurses' dining hall, the 7 p. m. nurses' dinner in the main block and the 7 p. m. nurses' dinner in the Woodburn ward are supplied from the same stock and one series of culinary operations covers them all.

5. As already stated, the persons attacked were (*a*) nurses, (*b*) 3 children in the Alexandra ward, and (*c*) a sweeper; of the affected nurses some dined in the dining hall, some in the dining room of the main block, and some at the Woodburn ward. All partook of the 7 p. m. dinner on Wednesday, July 28. The sweeper was attached to the Woodburn ward, and it was his perquisite to receive the spare or broken food from the nurses' table. It is reported that he received some such food on the 28th evening. The menu for the 28th July was as follows: Devilled tongue, roast veal, stewed fruit, custard sauce, cheese.

6. *Sources of infection.*—The conclusion arrived at is that infection was carried in some article of food served at the dinner of July 28, since every nurse affected, as also the sweeper, partook of this meal. Other possible sources of infection were—

(*a*) The filtered water supply,

(*b*) The unfiltered water supply if used to adulterate the milk after purchase, or

(*c*) Bazar milk if used by the nurses.

The probabilities, however, do not point to the disease having been communicated by any of these means. There were no other cases among the numerous persons using the filtered supply come from the kitchen of the nurses' quarters. The unfiltered supply was found free from cholera organisms on the 31st July, and the state of the general public health is opposed to the theory of any general contamination. If milk is consumed by the nurses privately at all, it is stated that condensed milk is used.

7. The case of the 3 children patients is less clear, but it is obvious that they were infected by the same cause which infected the nurses, and that all the cases must be considered as part of the same outbreak. It appears that there is occasionally some interchange of food between the nurses' quarters and the wards. For example, the nurses occasionally bring some special article of food from their own table to tempt the feeble appetite of convalescents. It is possible that in this way some of the food provided on the 28th of July was given to some of the children in the Alexandra ward. It is known that some custard was actually brought to the nurses' room which opens out of the ward.

8. *The conclusion.*—Of the articles of food served at the dinner of the 28th instant, it appears most probable that the actual "virus" was conveyed in the custard sauce which was served with the fruit. No other article is likely to have carried the infection. In order to decide how the custard became contaminated, an elaborate bacteriological examination was undertaken by Mr. Haffkine. On the 31st July he took 127 samples in all of the food, water, etc. He also took specimens from the intestines and discharges of 8 patients. Five of these showed "comma bacilli" in pure culture, thus eliminating the possibility of ptomaine poisoning. Of the 127 samples collected, 113 showed no sign of infection, whilst 14 were found tainted with "comma bacilli." The infected articles were—

(*a*) In the kitchen or pantry: (1) Water in the ice chest of the nurses' dining hall. (2) Water in a large earthenware "chatti" in the cook room. In this "chatti" is stored the filtered water supply for the time when the town supply is cut off. (3) Water in a zinc bucket used to fill the "chatti." (4) Water in the "lota," containing peeled potatoes for the day's cooking.

(*b*) In the nurses' quarters: (5) Remnants of milk in a tumbler standing on a table. (6) Wash up water in a bucket close to that table. (7) In bedroom 8, an uncovered cup containing remnants of milk.

Seven samples were suspicious without yielding definite results.

9. *Uniformity of infection.*—The uniformity of the infection led Mr. Haffkine to suspect the kitchen servants as possible sources of infection, and he conducted a further series of tests. The articles most infected were those used or cleaned by particular servant or class of servants, the "masalchi," who, from the nature of their work, handled every food vessel and many articles of food. Mr. Haffkine accordingly washed with sterile water the hands of the "masalchis" and of 7 out of 8 servants working in the kitchen as cooks, "kitmatgars," etc., and of 1 of the sweepers. Of the 12 servants, 2 "masalchis" yielded positive results. It was noticed at the hand washing that K.—a "masalchi"—was abnormally

clean, and the reason of this disturbing factor was inquired into. It was found that on the day of examination, having peeled the potatoes and washed the vegetables, he visited the latrine and subsequently bathed in filtered water. Yet the dry hands of this man, who had endeavored to keep clean, and was apparently in the best of health, were contaminated with "comma bacilli," and these came off easily in the sterile water with which they were bathed by Mr. Haffkine.

10. These results are sufficient to explain the contamination of the ice water, tiffin curries, and the custard. Granted that the custard, inoculated in the morning with "comma bacilli," was allowed to stand for some hours at the temperature of a July day in Calcutta. It would soon become a teeming mass of virulent microbes. The two suspected "masalchis" were subsequently isolated and placed under observation in order to test whether they harbored "comma bacilli" in their bowels, and this was actually proved by the examination subsequently conducted by Mr. Haffkine. Unfortunately this portion of the inquiry was less complete than was desirable, since the men declined to remain under observation in spite of inducements offered to them.

11. *The medium of infection.*—As a result of the inquiry which has been held, the lieutenant-governor is of opinion that it has been clearly shown that the deaths which have resulted were caused by cholera, the infection having been introduced into the food (probably into the custard sauce) served at the nurses' dinner on the 28th July. The medium of infection in all probability was the "masalchis," who were serving in the kitchen. The circumstances under which the meal was served, and partaken of by all the nurses, and by the sweeper, who succumbed to the disease, all point to this conclusion. Owing to the death of the nurses concerned the theory as to the distribution of some of the food to the patients in the Alexandra ward can never be actually verified, but it is in all probability correct.

12. Sir Edward Baker has personally visited the nurses' quarters and has approved of the immediate provision of a water tank and of certain improvements in the kitchen and pantry. The two latter buildings, however, are quite suitable in design and are clean and well found. The nurses' quarters in the old block are overcrowded, and their ventilation might be improved, but there is no evidence that the recent outbreak had any connection with overcrowding.

13. Sir Edward Baker desires to place on record his high appreciation of the conduct of the hospital authorities and the nursing staff during this time of peculiar and distressing difficulty, as also to tender his acknowledgments to Mr. Haffkine for his able investigation.

Professor Haffkine's report.—On August 8, the professor dispatched to the Bengal government the appended report from the government of India laboratory:

The following is a summary of the facts disclosed by my study of the recent cholera occurrences in the Presidency General Hospital. The outbreak comprised 10 cases among nurses, 3 in-patients in the children's ward, and 1 of a sweeper, all occurring practically within twenty-four hours. The suddenness, and the abrupt termination of the occurrences suggested the possibility of ptomaine poisoning.

That it is cholera was proved by the demonstration of "comma bacilli" in 3 fatal cases in nurses and in a fatal case in a child. The other fatal cases did not come under examination. Of the 4 recovery cases, all in nurses, 1 only yielded "comma bacilli;" the others were examined and found free.

The infection seemed to have its center in the nurses' quarters, and consequently did not appear likely to be in the general water supply which is common to those quarters and to the rest of the hospital. I examined, however, the tap water both from the filtered and unfiltered supplies, the latter being still served

to the hospital for certain specific purposes, but I failed to detect "comma bacilli" in either. To elucidate, if possible, the distribution and origin of the infection, everything pertaining to food and drink and to the preparation of these, as concerning the nurses, was examined. The 30th of July was the day when practically all the cases occurred. The samples were gathered on the 31st and the following facts have since been obtained. Of 127 sample materials collected, no indication of infection was met with in 113; 14 were found tainted with "comma bacilli."

14. *Tainted articles.*—The tainted articles were—

(1) Water in the ice chest belonging to the nurses' dining hall. The chest was standing at the time outside the hall, in the open, and had no ice in it. A small quantity of damp sawdust was lying close by, on the ground. No "comma bacilli" were found in the sawdust.

(2) Water in a large earthenware "chatti" in the cook room. In this "chatti" water is stored from the filtered water supply, for the time of the day and night when the supply is cut off. To get water out of the "chatti" a tin is dipped by hand into it. The "chatti" is filled from the tap not directly, but by means of a zinc bucket into which the tap water is received.

(3) Water in the latter bucket.

(4) Water in a large "lota" standing in the cook room and containing the supply of raw peeled potatoes prepared for the day's cooking. The peeling is done by hand; the potatoes had been put into water to be washed after the peeling.

Then, in the nurses' quarters, new building, the contaminated articles comprised the following:

(5) Remnants of milk in a tumbler, on a table at the foot of the staircase, on the ground floor.

(6) Washing-up water in a zinc bucket standing by the side of the above table.

In addition to the above articles the following appeared suspicious, without yielding clear results:

(7) In bedroom No. 8 an uncovered cup containing remnants of milk.

(8) Water in the earthenware "surahis" in the verandas of the ground and upper floors.

(9) Water in one of the two jugs on the washstand in Nurse S.'s room. (Nurse S. was one of the cholera patients.)

(10) Water from a toothbrush jug in room No. 8.

(11) Water from a flower vase in room No. 3, old nurses' quarters.

(12) Water in a "surahi" in the pantry, nurses' dining hall.

(13) The morning's milk supply, in a large basin kept in the milk cupboard in the pantry; and,

(14) Washing-up water in the cook room from the cleaned "muffineers" (tiffin carriers), in which food for the nurses' cook room to the dining rooms set apart for them and for the sisters in the wards.

At dinner time, drinking water, which is used by all nurses, is served in the dining hall, out of two or sometimes three jugs, one jug to a table of some 14 persons. The water is cooled by ice put into the jug. It appears on inquiry that the ice supply is in charge of one of the "masalchis" who receives it on arrival, puts it into the ice chest, and, I believe, deals it out when required.

The peeling of potatoes and other vegetables is done again by the "masalchis," who are 4 in number.

The washing up of the dishes and all other articles on which food is served in the dining hall, and of the "muffineers" used for sending food to the nurses on duty in the wards, is also the work of the "masalchis."

The hands of the "masalchis" and incidentally of 7 of the 8 other servants connected with the nurse messing (the "khanasamah," the "bawarchi", the "bawarchi's" mate, 3 dining hall "kitmatgurs," and the hospital dining room "kitmatgurs") and of one of the sweepers were consequently examined for "comma bacilli."

Of the 12 servants 2 yielded positive results. The first of these was the cleanest of all those who came up for examination, having just finished bathing. A remark was therefore made at the time by one of the bystanders as to this disturbing circumstance.

When on the day following it became apparent that the hands of this man had yielded "comma bacilli" and inquiry was made, the following written statement was received from the hospital authorities:

"K., 'masalchi,' yesterday morning, after peeling potatoes and cleaning vegetables, visited the latrine and subsequently bathed at the usual place set apart in front of the servants' quarters, which is a filtered water supply from the municipality. The servants invariably bathe there while the flow of water is on; and it is the place where this man always bathes.

"Thus the dry hands of the man, who had done his best to keep clean and was apparently in the best health, were contaminated with 'comma bacilli' and these came off easily when brought in contact with the fluid into which they were received by me.

"I have had no time to ascertain yet whether the two men in question actually harbored 'comma bacilli' in their bowels. But contamination conveyed from their hands to the ice and to the dishes, bottles, muffineers, etc., would be carried to every nurse who dined in the hospital at the time; it would be capable of being conveyed, not directly to a sick ward, but to the nurses' dining room in the ward, and could reach the ward's sweeper, who, it appears, usually gets whatever remains in the muffineers from the nurses' dinner."

CHOLERA MEASURES IN THE PHILIPPINES.

General information concerning the measures to be taken in combating Asiatic cholera has been published as a part of the Bureau of Health Manual and also separately for distribution among health officers and municipal officials, as Health Bulletin No. 7. With the hope that it may prove of service in other countries, should the disease manifest itself it is mailed upon application.

With the sanitary inspectors of this Bureau it has become a schedule of procedure and is followed without deviation, thus insuring system and uniformity.

CHOLERA IN MANILA.

A case of cholera occurred in Manila July 10, 1910, and another July 28. No more cases were reported until August 17 when two cases occurred in Bancusay.

The disease did not make great headway. All the towns near Manila were cleaned up and the health forces organized by men from the central office in advance of the appearance of cholera. Assistant sanitary inspectors from Manila were stationed in these towns to maintain the standard of cleanliness.

Manila in all probability became infected from Bulacan, the first cases occurring on Tondo Beach, where fish and sea food from Bulacan

are bought and sold. The outbreak may be said to have commenced August 17, and has reached a total of 377 cases. Its appearance was anticipated and before the first cases occurred, with the aid of the Manila police force, a house-to-house inspection was in smooth operation.

The measures adopted and the examination of stools of sick children enabled the Bureau of Health to find and isolate many light and atypical cases which otherwise would have escaped observation.

So far as the city of Manila is concerned most important facts developed in connection with the diagnosis of this disease. For the first quarter of 1905, there were 80 cases of meningitis reported; 81 cases for 1906; 151 for 1907, and 129 for 1908. In view of the desirability of verifying the diagnosis in some of these cases a number of autopsies were made and these showed that the cause of death was not meningitis, but cholera.

In view of these findings, it was decided in September to hold autopsies on all cases that were reported as meningitis. This step had the immediate apparent effect of increasing the diagnostic acumen of those signing death certificates and only 34 cases of meningitis were reported; on 28 of these autopsies were held and only 2 proved to be meningitis; 17 were cholera; 4 were beriberi; 1 was empyema; and 4 were undetermined.

Erroneous diagnoses of this kind furnish additional proof of the manner in which it is possible for cholera to be tided over from one outbreak to another and also most strongly emphasizes the importance of continuing investigations with regard to cholera in the Philippine Islands.

CHOLERA IN THE PROVINCES.

The outbreak of July in Albay Province was controlled by the first week in August, but the coincident epidemic in Ambos Camarines was more difficult to handle and persisted until November.

The outbreak in Hagonoy, Bulacan, was suppressed in eighteen days with a total of 40 cases. Bulacan became reinfected from Pampanga in the second week of August. The difficulty in obtaining proper quarantine guards was responsible for its spread. In Malolos, Obando, and Bulacan, however, Constabulary soldiers were secured for quarantine guards on September 10, and the disease was brought under control by September 20.

A serious epidemic in Oriental Negros began in August and by September 1 12 towns had been infected. This infection was soon confined to 4 towns and completely eradicated before the end of the year.

Cholera was also present in epidemic form in Bataan, Bohol, Cagayan, Ilocos Norte, Isabela, and Rizal. Small outbreaks in Cavite, Leyte, Samar, Tarlac, and Tayabas Provinces were suppressed without much spread of the disease.

In the provinces, one serious outbreak of cholera occurred in the city of Cebu, the daily number of cases rising to 73. Owing to the decided energetic measures immediately taken by District Health Officer Pond the number of cases was brought down in a period of one week to 5 per day. Better results in a shorter time were probably obtained in combating this outbreak than in any with which the Bureau has had to deal since its organizations. If the disease had not been promptly controlled it would undoubtedly have spread throughout this thickly populated island, the danger of spread being much greater now than formerly because of the great improvement of transportation facilities brought about by the building of wagon roads and railroads. The success achieved in this outbreak is further due to the hearty coöperation which was met with from nearly everyone concerned; the municipal and provincial governments, the joint committee of the Legislature, the Insular Government, public-spirited private firms and individuals all uniting in the campaign which terminated so successfully. Cholera in the Province of Pampanga will be treated in connection with a notorious cholera area consisting of the territory bordering upon the north shore of Manila Bay.

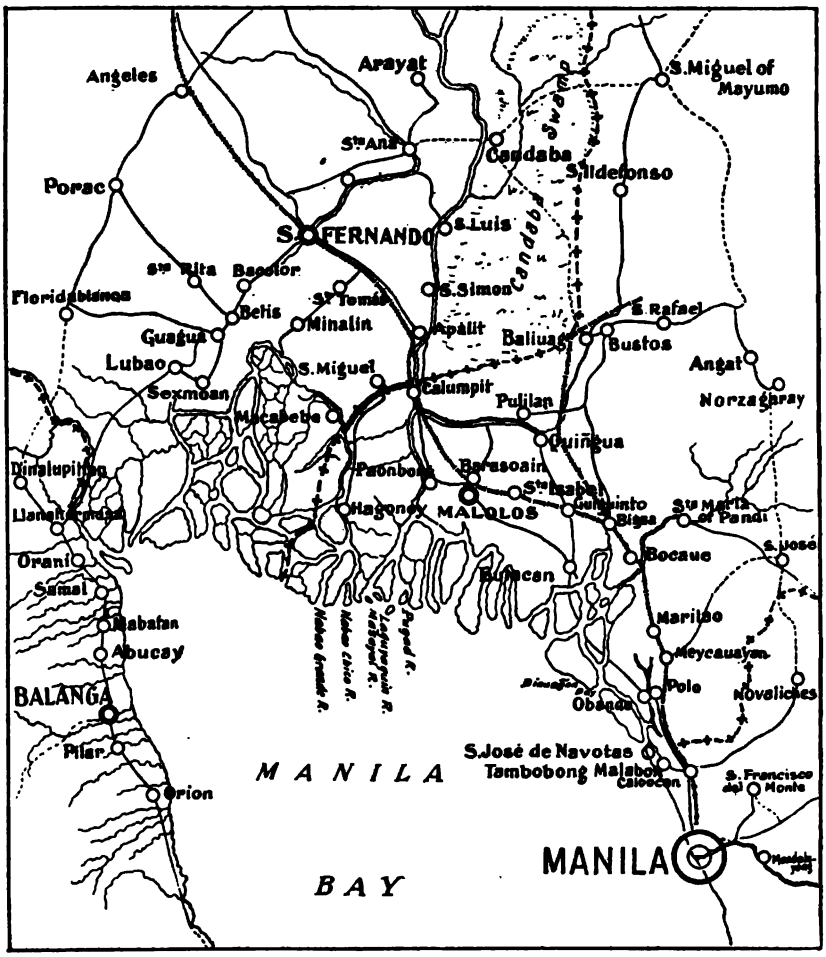
A CHOLERA REGION.

If cholera has an endemic home in the Philippines it must be in the territory bordering upon Manila Bay between Orani, Bataan, and Malabon, Rizal. This territory is intersected by innumerable esteros, creeks, and channels and the lower fringe is a tidal swamp in which the nipa palm grows luxuriantly. The people live by the various industries connected with nipa and by fishing. They are nomadic, constantly traveling in their bancas, and usually carrying their poor provision of food and water with them. They are for this reason most excellent carriers of infection.

For the past two years, during the dry season, cholera has disappeared entirely from the Island of Luzon, with the exception of the district described above. In fact, this wet, swampy, tidal delta presents practically the same aspect in both the dry and wet seasons and for this reason the favorable influences of the dry season in checking cholera operate in this ditrict in a much lesser degree.

The influence of moisture upon the spread of cholera is not clearly understood. Certain it is that cholera spreads with great rapidity in the wet season and tends to diminish or disappear during the dry months. Possibly this is to be explained because of the greater efficiency of sun disinfection when ground surfaces are dry. These people defecate wherever they happen to be; in the dry season their stools upon a dry surface are quickly rendered harmless by the drying and disinfecting action of the sun, whereas in the rainy season the fecal material is frequently

washed into the wells or water courses from which the drinking water is taken.



THE REGION OF EPIDEMIC CHOLERA.

The endemicity of cholera is not proved by the failure to eradicate it entirely from the delta for a period of two years. It may be accepted as proved, however, that the difficulties of its eradication under such circumstances are very great.

One significant fact against the theory of endemicity is frequently noted, namely, that even the towns with the worst records for cholera are clean for months at a time but become reinfected from other towns in the cycle.

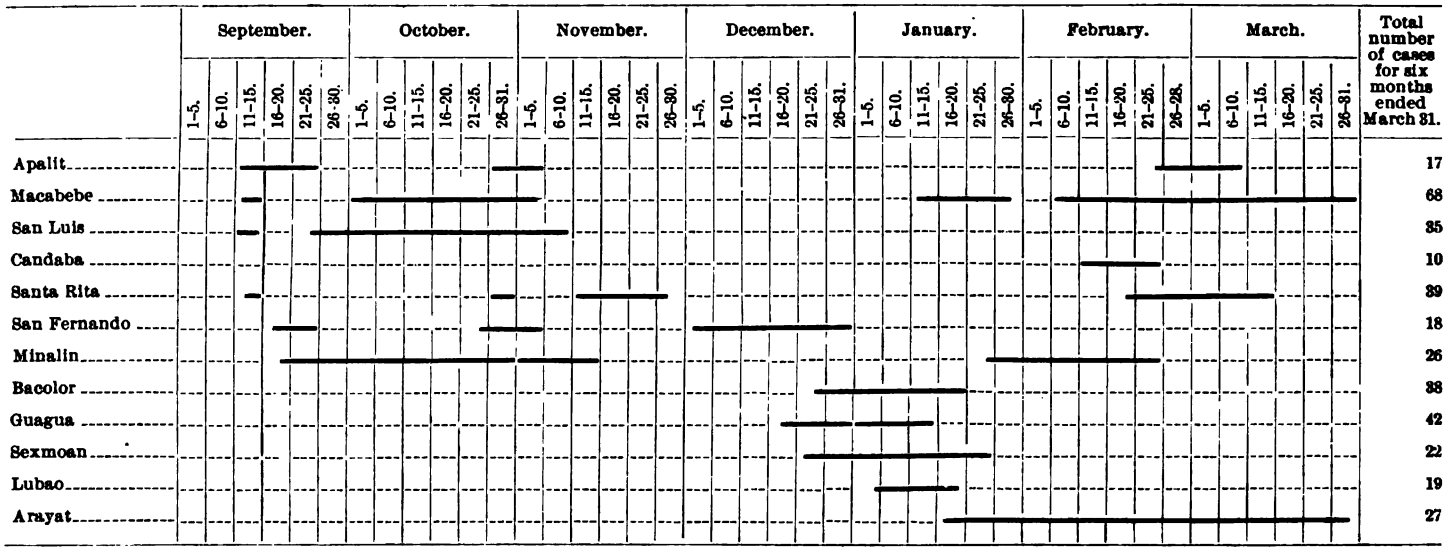
To explain further, in July an epidemic started in Hagonoy, one of the most notorious cholera towns. With a large force of Manila men and

Constabulary guards, the outbreak was suppressed in eighteen days, with a total of 40 cases. At the same time another large force of men from Manila was combating a much larger epidemic in Pampanga, prevailing in the towns of Sexmoan, Guagua, Lubao, Santa Rita, Bacolor, Porac, and San Fernando. This epidemic was also suppressed, although six weeks were necessary, and the province was declared clean in August. The Pampanga epidemic, however, lasted long enough to reinfect Hagonoy. Pampanga was now clean for one month or until about September 6, when the province was reinfected from Bulacan; so the endless chain went on. Often the cases were very few and scattered, sometimes more than five days between reported cases, but there were undoubtedly other cases unrecognized or unreported which supply the missing links in the chain.

The table shows how the infection jumped from place to place over this area. During the dry months of January, February, and March there were 180 cases of cholera in Pampanga, scattered over 12 towns, or an average of 5 cases a month for each town. There is great difficulty in combating an infection scattered over so many towns and yet so slight as to be scarcely noticeable and as elusive as the proverbial flea.

The table shows the results of work of the Bureau in combating cholera in this "cholera area" during the most favorable season of the year, October to March. The number of cases was reduced to a very low figure, but the cholera was not eradicated. In the table the months are divided into five-day periods. It will be noted that the cholera outbreak in Macabebe and San Luis, which began September 10 was stopped by November 3, and these towns remained clear for over two months. However, San Fernando picked up the infection October 24 and carried through the first week of November. Here Santa Rita became infected and this was the only town infected at that period. A strenuous effort to clear Santa Rita was successful and the town was clear of cholera in eighteen days. The infection lasted long enough, however, to reinfect San Fernando December 4. Our best efforts were concentrated upon San Fernando, but although this municipality was cleared by the 31st of December and remained clear for months, the experience of Santa Rita was repeated and Guagua, Sexmoan, and Bacolor became infected from San Fernando about the middle of December.

The infection in these three towns, Guagua, Sexmoan, and Bacolor was eradicated in less than five weeks and they have remained clean up to the present. The cycle began all over again when Macabebe, after having been clean for over two months, became infected, probably from Sexmoan. Arayat became infected from Macabebe and the infection lasted in these two towns from January to April. For these three months the total number of cases in Macabebe was 50 and in Arayat 27, which speaks eloquently for the work of the Bureau of Health men under Medical Inspectors D. M. Molloy and Vicente de Jesus,


September.
October.
November.
December.
January.
February.
March.
1–5.
6–10.
11–15.
16–20.
21–25.
26–30.
26–31.
26–28.
Total number of cases for six months ended March 31.
Apalit 17
Macabebe 68
San Luis 35
Candaba 10
Santa Rita 39
San Fernando 18
Minalin 26
Bacolor 38
Guagua 42
Sexmoan 22
Lubao 19
Arayat 27

but the infection again lasted until the beginning of the rains and the infection of new territory in the Province of Pangasinan.

The infection of the Province of Pangasinan probably took place at Bayambong from Macabebe. There are over 300 women, wives of the Scouts at Camp Gregg, living in Bayambong. A great many of these are from Macabebe, hence there is much travel between Macabebe and Bayambong.

On April 14 the president of the municipal board of health of Bayambong reported a suspicious case of cholera. The same day a telegram was sent to the district health officer at Lingayen informing him of the case. Without waiting for the report of the district health officer, orders were issued April 16 to Sanitary Inspector Allen and six assistant sanitary inspectors to proceed to Bayambong and Bautista, Pangasinan, for duty. On the same day (16th) Medical Inspector Snodgrass was ordered to inspect all towns on the west of the railroad line to Pangasinan and to take charge of operations against cholera. Doctor Snodgrass found that cholera had been present continually in Aguilar since the 12th, in Bayambong since the 9th, in Mangatarem since the 11th, in Salasa since the 10th, in San Carlos since the 14th and in Lingayen since the 17th of April. On the 19th Sanitary Inspectors Searcy and Covey with 15 additional assistant sanitary inspectors were sent to report to Medical Inspector Snodgrass. Doctor Villafranca was ordered to inspect and organize all towns east of the railroad.

With eight municipalities infected before the Insular inspectors arrived, the probability of a serious and widespread epidemic was evident.

The Province of Pangasinan was divided into six health districts, each district containing six to eight municipalities, and were placed in charge of District Health Officer Caballero, District Health Officer Villafranca, Sanitary Inspectors Hogle, Covey, Searcy, and Allen, respectively, and in each of 40 municipalities an Insular assistant sanitary inspector was placed to take charge of the local personnel.

There is a striking similarity between the Pangasinan epidemic of 1908 and that of 1910.

Both epidemics began in the same month, in general the same towns were infected, and the sequence of infection from town to town was similar. Both epidemics reached their maximum in June and declined toward the end of that month. However, a comparative study of the number of cases in the various municipalities shows that the splendid work of Medical Inspector Snodgrass and his assistants had the effect of greatly reducing the number of cases in the towns which were worst afflicted in 1908. The infection of 1910 was more widespread

than in 1908 but the total number of cases was a little more than half. The following table shows the differences in the two epidemics:

Pangasinan Province.	Cases.		Pangasinan Province.	Cases.	
	1908	1910		1908	1910
Agno	29	------	Posorrubio	88	3
Alaminos	1	8	Rosales	------	3
Asingan	33	23	Salasa	------	9
Alcalá	------	9	San Carlos	343	66
Balungao	65	14	San Fabian	4	2
Bani	------	6	San Isidro Labrador	------	27
Bautista	147	25	San Jacinto	133	3
Bayambang	90	60	San Manuel	25	5
Binalonan	189	------	San Nicolas	3	1
Binmaley	8	14	San Quintin	------	1
Bolinao	1	1	Santa Barbara	41	56
Calasiao	271	33	Santa Maria	32	------
Camp Gregg	------	2	Santo Tomas	1	2
Dagupan	410	87	Sual	3	34
Lingayen	22	123	Tayug	14	1
Malasiqui	79	108	Umingan	------	2
Manaoag	95	51	Urbiztondo	------	3
Mangaldan	576	65	Urdaneta	10	243
Mangatarem	1	235	Villasis	4	68
Mapandan	------	58			
Natividad	4	------	Total	2,722	1,515

CHOLERA IN CHILDREN.

The following conclusions were arrived at by Dr. Allan J. McLaughlin, Assistant Director of Health, in a paper published in the Philippine Journal of Science:

There is no reason for believing children to be less susceptible to cholera than adults, especially in view of the fact that children are particularly prone to all other intestinal disorders.

Cholera in children is often unrecognized and unreported as such, being reported as acute or chronic enteritis, gastro-enteritis, enterocolitis, dysentery, acute or simple meningitis, and probably also as "infantile" beriberi, convulsions of children, and other diseases.

The occurrence of these errors in Manila makes it more than probable that the same confusion exists in a greater degree in the provinces, where skilled diagnosticians are more rarely found.

The clinical picture of cholera in children is often atypical, and the diagnosis may be extremely difficult if not impossible without a bacteriological examination of the intestinal contents. Cerebral manifestations in children suffering from cholera are very common, and their severity is in inverse proportion to the age of the child. Acute meningitis is a very rare disease in Manila, in spite of the statistics to the contrary. The percentage of children attacked by cholera is higher than shown by the statistics of the Bureau of Health.

Further investigation is necessary to demonstrate the relation between "infantile beriberi," "acute bronchitis," "convulsions of children," etc., and cholera in children.

During cholera outbreaks and during June, July, and August and September, all acute diseases of children should be reported to the Bureau of Health. A bacteriological investigation of the intestinal contents should be made in every case.

DYSENTERY.

During the year, there were 213 deaths in Manila from dysentery, 47 of them being among adults. Both the bacillary and amœbic varieties have been present but not in epidemic form.

Dysentery is a disease that is to be particularly dreaded by the white race in the Tropics. The natives are not immune, but with them as with the Chinese, the disease tends toward recovery and abscess of the liver resulting from amœbic infection is not common. The perpetuation of the disease is due to the use of nonsterilized food and drink and to the personal insanitary habits of the people. With the servant class, those that have the best opportunity to disseminate the infection, there exists a dense ignorance with regard to the nature of bacteriological cleanliness. To them a germ is a bug, a something that can be seen and dealt with by means of a bolo. It will be a long time before those who ought to know first will learn the principles of hygienic cleanliness.

GANGOSA.

The experience of the year has further confirmed the belief that this disease as specific entity does not exist in the Philippine Islands. A diligent search has been made for cases but none have come under the observation of the Bureau.

INSANITY.

The Bureau of Health census of the insane shows that there are 2,178 males and 1,622 females or a total of 3,750 insane persons in the Philippine Islands. Of this number 172 are confined to the San Lazaro Hospital and 104 at Hospicio de San Jose. The great majority of the insane persons in the Philippine Islands are of a most harmless character and present no problem beyond that of simple maintenance. Persons who are violently insane and those of incendiary proclivities and others that are and should for obvious reasons be restrained are accommodated at the San Lazaro Hospital for the Insane.

Each province is entitled to have maintained at Insular expense a certain number of insane in proportion to its population, upon the condition that they will deliver them free of expense at the doors of the San Lazaro Hospital.

For the commitment of the provincial insane there is yet no adequate legal procedure but the course of procedure outlined in the circular of the Executive Secretary, to be found in another part of the report, is being used at the present time.

HYDROPHOBIA.

During the year, for the first time in the history of the Philippine Islands, the existence of hydrophobia in dogs was demonstrated by finding the Negri bodies, Dr. F. W. Dudley has been of the opinion for some years that hydrophobia existed in the Philippine Islands and

in order to demonstrate this conclusively he associated himself with Dr. Eugene R. Whitmore, major, Medical Corps U. S. Army, who is on special detail with the Civil Government at the Bureau of Science. This Bureau gave the investigation aid, by sending a circular letter to all district health officers, medical inspectors, and physicians of the Bureau of Health and to all presidents of the municipal boards of health throughout the Philippine Islands asking them to furnish specimens in accordance with the instructions of Doctor Dudley. On April 16 two dogs were sent from Pampanga Province by Dr. Salvador Gomez, of Angeles. Doctor Whitmore and Doctor Dudley found the Negri bodies in these dogs and made inoculations into rabbits and again recovered the Negri bodies from the rabbits' brains.

This discovery is of great importance from the health standpoint, and if the disease is at all prevalent in the Philippine Islands the opening of a Pasteur Institute for the treatment of rabies will be necessary.

Doctor Whitmore visited Saigon for the purpose of securing the necessary strains so that the virus may be produced in the Philippine Islands. Investigation is now being made in order to ascertain the extent of the prevalence of the disease in the Philippines.

HOOKWORM.

Experience in the Philippine Islands furnishes a most excellent example of the necessity of a large number of independent scientific observations being made before steps are taken on a large scale to combat the hookworm. It will be remembered that several years ago after the inmates of Bilibid Prison had been freed of hookworm and other intestinal parasites the mortality and morbidity rate in the prison dropped at a remarkable rate and that the improvement among the prisoners occurred in regular sequence as the different brigades were examined and the intestinal parasites eliminated. It was held by many at that time that if so large a percentage of the prisoners at Bilibid were infected with intestinal parasites, the same condition of affairs also prevailed throughout the Philippine Islands and that if this condition could be relieved, a great reduction in the death rate would take place. A resolution was passed by the Philippine Islands Medical Association and also by the Manila Medical Society urging that steps be taken to combat this condition. Before inaugurating so large a public health measure and expending large sums of money, it was deemed advisable to have more data available. Accordingly a joint investigation by a commission under the auspices of the Philippine Medical School, the Bureau of Science, and the Bureau of Health was conducted at Taytay and they found that approximately only 10 per cent of the inhabitants were infected with hookworm, and that those infected were apparently in as good health as those who were not infected. A study

of the mortality statistics of the year that followed the investigation shows that there has been no improvement in the death rate of Taytay in spite of the fact that not only were the inhabitants treated for intestinal parasites but also for many other diseases. Another commission was then put in the field by the Bureau of Health in the town of Las Piñas, a place with a sandy soil located on Manila Bay. Over 6,000 persons were examined there; 24.2 per cent of the males and 8.06 per cent of the females were found infected with hookworm, or an average of 16.13 per cent. It was then deemed advisable to transfer this commission to an inland town and accordingly it was sent to Tuguegarao, Cagayan Province. There 16.90 per cent of those examined were found to be infected. One of the large tobacco growers reported that they had an unusually large number of lazy laborers on one of their principal haciendas and requested that an investigation be made. Of the 802 who were examined, 10.71 per cent were found infected with hookworm.

From a study of the statistics of Bilibid, Taytay, Las Piñas and in the Cagayan Valley, it is apparent that conclusions drawn from such meager data would be misleading and that considerable additional work will be necessary before definitely determining what steps should be taken.

Statistical information with regard to the hookworm and other intestinal parasites may be found in the appendix.

PELLAGRA.

Since the widespread interest which has been awakened more particularly in recent years with regard to pellagra, and since its discovery in insane asylums and other places in the United States, diligent inquiry has been made in the Philippine Islands for the purpose of ascertaining whether any cases of this disease had been observed.

Dr. D. G. Willets, of the Philippine Medical School, has informed the Bureau that in his work in connection with the hookworm commission in the Cagayan Valley, one case came under his observation which he diagnosed as pellagra.

District Health Officer Pond is making a systematic search among the residents of the Island of Cebu. In that province much corn, which is generally associated with the etiology of pellagra is grown and constitutes one of the staple articles of diet of the masses.

LEPROSY AND ITS TREATMENT.

Most substantial progress has been made during the year with the leprosy problem. It may be safely said that it is nearer a successful solution than at any time since the introduction of the disease. If the Bureau had no other result to show for the appropriations which are made for its support, it is believed that this record more than justifies its

existence. With the exception of the lepers in the Moro Province and a few isolated cases here and there, all the lepers in the Philippines are now segregated. To accomplish this was a task of large proportions, and required great courage and a resoluteness of purpose of the highest order. The employees of the Bureau and others who assisted in this work performed a great service for humanity.

Since the inception of the project to segregate all lepers in the Philippine Islands, the transfers to Culion have been as follows:

Second quarter, 1906	365
Third quarter, 1906	132
Fourth quarter, 1906	305
First quarter, 1907	1
Second quarter, 1907	310
Third quarter, 1907	221
Fourth quarter, 1907	158
First quarter, 1908	1,025
Second quarter, 1908	150
Third quarter, 1908	257
Fourth quarter, 1908	171
First quarter, 1909	396
Second quarter, 1909	499
Third quarter, 1909	198
Fourth quarter, 1909	285
First quarter, 1910	122
Second quarter, 1910	180
Total	4,775

From the foregoing it may be seen that 4,775 lepers were actually transferred and that this total corresponds closely with the estimates which were made before the actual segregation was begun, and conclusively refutes the statements of so many persons who estimated that there were from 10,000 to 50,000 lepers in the Philippines. Many of these erroneus statements were published in the United States and Europe and no doubt have done much harm.

Of the total number of lepers, over 1,700 came from the Province of Cebu. In other words, that island has approximately one-tenth of the population of the Philippines and had over one-third of the total number of lepers. This island constitutes one of the most thickly populated provinces of the Philippines and this large percentage of leper infection indicates that the disease is more easily contracted in communities which are densely populated.

Of the lepers segregated during the present year a great many were in the earliest stages of the disease and in many instances no outward manifestations were apparent, whereas in the collections made in former years, the cases were mostly advanced ones and were frequently loathsome and helpless, many of them being so feeble that they died before they reached their destination.

The leper collections also had the direct effect of restoring several hundred unfortunates to society, who for years were outcasts in the communities in which they lived. Upon proper medical examination they were found not to be lepers and in many instances it was possible to provide them with medical treatment that resulted in their complete recovery.

In the annual report of the first year, mention was made of the fact that Mr. Moses T. Clegg, of the Bureau of Science, had apparently been successful in cultivating the leper bacillus. He had still further success with this work during the past year, and Maj. Eugene R. Whitmore, Medical Corps, U. S. Army, is now engaged in making a vaccine which it is hoped will be of value in the treatment of leprosy.

Treatment.—As has been the case in former years, many remedies for the cure of leprosy have been advanced in all parts of the world. Each of these treatments has been tried just as quickly as it could be secured and lepers found who would volunteer to take it.

The Nastin treatment was given a thorough trial, with negative results. The decoction prepared from the mangrove, which received so much publicity through the press on account of some alleged cures in Cuba, proved a failure. A powder which was claimed to have given remarkable results in a case of leprosy in Camden, New Jersey, was tried here, but so far without any noticeable benefit. The results of a treatment with a vaccine prepared from leprosy bacilli which were cultivated after the method of Clegg have so far not been very encouraging. As, however, further research in this direction is very promising, it will be continued.

The two methods used in the Philippines that have given beneficial results in certain forms of leprosy are the X-ray and chaulmoogra oil. No positive cures have resulted during the year from the X-ray, but the disappearance of all outward manifestations of the disease occurred in a number of patients. The chaulmoogra-oil treatment has given most encouraging results. It has been used in a number of cases, both at Culion and at the San Lazaro Hospital in Manila.

At Culion, there are two cases of leprosy from whom all evidence of the disease has disappeared but the leper bacilli can still be demonstrated in carefully prepared scrapings from the septum of the nose.

At San Lazaro Hospital there are five cases that have shown decided improvement and one of them is apparently cured.

The history of this case is as follows:

Name, Basilio Dacanay; age, 31 years; sex, male; race, Filipino; married; former occupation, motorman; former residence, 48 Isla de Romero, Manila; date of admission to hospital, February 7, 1909.

Personal history.—Negative. In 1908 had tetanus. No history of venereal disease.

Clinical history.—Reddish spots, not painful or itchy, were noticed on temples

three years ago. Applied family remedies without effect. The disease progressed, the lobes of the ears becoming red, thickened, and swollen. Soon after noticed infiltrations and thickening of both arms and thighs; suffered no pain or discomfort therefrom.

Condition on admission.—Physical examination of the heart, lungs, abdominal organs, etc., proved negative; cheeks were reddish and shining; had no pain; lobes of ears were hypertrophied, reddish, and shining; arms had reddish, shining spots; some also present on the back of right hand; eyebrows normal; no areas of anæsthesia present; microscopic examination of a specimen taken from the ear showed leprosy bacilli.

Present condition.—Cheeks are less red and shining; ears are but slightly enlarged, the redness has disappeared, and spots on arms and legs no longer present.

Treatment.—In February, 1909, crude chaulmoogra oil was given internally, commencing with 15-drop doses, gradually increasing the dose up to 300 drops a day; 0.001 (one-sixtieth grain) strychnine sulphate was given three times daily; saline purge every eight days; hot sodium bicarbonate bath every two days. Beginning on March 10, intra-muscular injections with crude chaulmoogra oil combined with 3 per cent resorcin was given every eight days, the dose being gradually increased until 5 cubic centimeters was reached. The patient was frequently examined for leper bacilli which were found to be apparently decreasing rapidly. On examination made July 12 and July 14, 1910, no leprosy bacilli could be found.

In brief it may be stated that the experience of the past two years with crude chaulmoogra oil shows that persons afflicted with leprosy, especially the hypertrophic form, whose stomachs will tolerate the oil given in ascending doses combined with 0.001 (one-sixtieth grain) doses of strychnine and who can stand the hot bicarbonate of sodium baths, soon show signs of improvement.

At the close of the fiscal year advices were received from a drug firm which claims to have extracted the essential substance from crude chaulmoogra oil and that this can be taken internally without nausea. Samples have been requested and they will be given a trial as soon as they arrive.

MALARIA.

Malaria while not so common or so dangerous in the Philippine Islands as in many other tropical countries is, nevertheless, present, and methods for combating it are constantly being devised.

In the city of Manila there were 110 deaths reported for the year, which is within one case of the number as reported for the previous fiscal year. In view of the fact that in a great majority of these cases there was no blood examination, and no autopsy was held, the diagnoses are open to considerable doubt.

In view of the fact that the malaria-bearing mosquitoes are rarely encountered in this city, if this number of deaths actually did occur of malaria, the disease must, in all likelihood, have been contracted outside of the city.

With the idea of combating malaria upon a large scale, particularly in provinces like Albay and Ambos Camarines, arrangements have been made for the purchase of 2,500,000 doses of quinine. These will be distributed gratuitously and the effect upon the incidence of malaria in the coming year will be of interest.

MOSQUITOES.

This Bureau believes that considerable can be done toward improving the conditions with regard to mosquitoes in Manila, particularly the annoying night mosquito, the *Culex fatigans,* and the day mosquito, the *Stegomya persistans,* by educating the individual householders to make the breeding of mosquitoes on their premises impossible, and then by an organized inspection service to enforce the sanitary regulations. In the meantime a definite engineering project should be adopted, and drainage and filling done in accordance with it as rapidly as the resources will permit.

It must always be remembered, however, that Manila is on low land, much of its area being below sea level in fact. To bring the city to a drainable level is a primary necessity and this is estimated to cost at least ₱4,000,000. When it is remembered that the annual income of the city is under ₱3,000,000 and that this must be devoted to current expense, it will be seen that a bond issue is the only hope of providing the funds to do the necessary filling.

MEASLES.

Measles are continually being introduced into the Philippine Islands by newcomers from the United States, frequently by new troops. The disease has been present during a portion of the year in mild epidemic form but no deaths have been caused by it.

The disease as it exists among the Filipinos is of a much milder type than that encountered in the United States. For that reason it is feared that if the strain as it exists in the United States or Europe should gain a hold here the consequences might be more severe.

PLAGUE.

No plague has been encountered in the Philippine Islands either in man or rat during the year covered by this report. The last known case of this disease occurred in the Philippine Islands April 20, 1906.

The ports located in the near-by foreign countries have again suffered from outbreaks of this disease, particularly Amoy. Practically the only measures taken in the Philippine Islands against its reintroduction are based upon the rat theory of transmission of the disease. All vessels that touch plague-infected ports, and more particularly those that come

alongside of the wharves in the Philippine Islands are fumigated with sulphur at least twice annually in order to destroy any rats or vermin that may be aboard. In addition to this, every endeavor is made to keep the wharves rat-proof and to place barriers upon the wharves which will prevent rats gaining access to shore. The wharves themselves are protected from rats from the vessels by fending them off whenever possible at least 6 feet from shore and using special rat funnels with which rat traps are combined upon all lines that lead to shore. The gangways are lifted at night. Considerable difficulty, however is experienced in enforcing the wharf regulations and in order to have them rigidly carried out no doubt the stimulus produced by the presence of actual plague would be necessary. Fortunately the new wharves in Manila have so far apparently remained free from rats.

As a prophylactic measure to prevent the spread of plague in case it should gain admission to any of the ports of entry, all vessels, lighters, cascoes, launches, and other water craft engaged in the interisland trade have been fumigated under the supervision of the Public Health and Marine-Hospital Service. In order to carry this into effect the following circular letter was issued by the quarantine service:

[Circular letter.]

U. S. TREASURY DEPARTMENT,
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,
OFFICE OF CHIEF QUARANTINE OFFICER FOR PHILIPPINE ISLANDS,
Manila, P. I., February 21, 1910.

To the owners, agents, and masters of vessels, and others concerned.

SIRS: In order to minimize the danger from the spread of plague by vessels in the event that this disease should again make its appearance in the Philippine Islands, all vessels in the interisland service, and all local craft, including, cascoes, launches, lighters, etc., and vessels in the foreign trade which call at the ports of entry in the Philippines, must be fumigated at least twice annually in order to destroy the rats and vermin that may be aboard.

It is the intention to carry out this fumigation at such times as will cause the least inconvenience to the vessels; and, in view of the fact that rats and vermin are a source of considerable annoyance and expense to the owners of vessels, as well as being most undesirable, it is hoped that your full coöperation in carrying out this fumigation will be accorded. No charge will be made for the work. A certificate stating that the vessel has been fumigated will be issued to all masters of vessels who may desire it.

Masters of vessels would confer a great favor upon this Bureau if they would send to the quarantine office a brief statement, each time a vessel is fumigated, which would give the number of rats and mice that were killed by the fumigation.

All vessels should be empty when fumigated, and it is respectfully requested that, when unloading is completed and before new cargo is taken on board, the quarantine office be notified before noon on the day on which it is desired to have the fumigation done in order that the work may be carried out as expeditiously as possible.

Respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon,
Chief Quarantine Officer for the Philippine Islands.

SMALLPOX.

The effect of the systematic vaccination of the residents of the Philippine Islands is being felt more and more. In almost every instance the persons who contracted smallpox were those who had been either unsuccessfully vaccinated or else had escaped being vaccinated altogether. In all the cases treated at San Lazaro Hospital not a single death occurred.

Many requests were received from the provinces to have a thorough vaccination done, one of the first examples being that of Antique Province among the residents of which a severe outbreak of smallpox had occurred.

In the city of Manila 137 cases of varioloid were treated at the San Lazaro Hospital but not a single death took place and in most instances the disease was so mild and so unproductive of symptoms that the individuals strenuously objected to being taken from their daily vocations. All of these cases occurred in persons who had been previously vaccinated which accounted for the mildness of the symptoms.

VACCINATION.

During the year 260,957 persons were vaccinated by the regular vaccinating parties which were sent out by the Bureau of Health and 933,676 persons were vaccinated at the expense of the provinces and municipalities, making a total of 1,194,633 vaccinations. The plan of carrying out the systematic vaccination has been for the Insular Government to complete one systematic vaccination of the inhabitants of the Philippine Islands and thereafter it was made the duty of the municipalities to vaccinate during July and January of each year all the children who had been born since the last systematic vaccination who were still unvaccinated and also to vaccinate all unvaccinated persons who came into their municipalities. It was found in many instances that the municipal officials were lax or the vaccine was permitted to become so old before it was used that even if the vaccinations which were performed they were practically useless. In other instances it was found that the vaccinators had falsified the returns and failed to vaccinate persons whom they had reported as vaccinated. This was directly responsible for a number of smallpox outbreaks which occurred before the facts were known.

The Bureau of Health has had to send Insular vaccinators to combat outbreaks of smallpox in the Provinces of Capiz, Iloilo, Occidental Negros, and Zambales. It is probably needless to state that just as soon as the vaccinations were performed with potent virus properly applied the disease completely and promptly disappeared.

Formerly great opposition was encountered in Antique Province and the lives of the vaccinators were seriously threatened by persons who refused to be vaccinated. However, after much persuasion a consider-

able number of the inhabitants were vaccinated. Shortly afterwards smallpox was introduced and the death rate among the unvaccinated became alarming, the people themselves then noted that in spite of the fact that the vaccinated persons frequently came in constant contact with the disease they did not contract it, while the unvaccinated died in large numbers. This led to urgent requests being made for vaccination, and the vaccinators who previously found their lives in constant danger were welcomed in communities where before they had been looked upon as enemies.

In some portions of Iloilo Province great difficulty was encountered in vaccination work, due to the fact that a rumor was maliciously circulated stating that the vaccine had been purposely infected with leprosy and all those who were vaccinated would soon contract the disease. Much patient effort was required to overcome this misinformation and in the interim many persons lost their lives from smallpox.

SPRUE.

In the annual report for the fiscal year ending June 30, 1908, it was stated that sprue was a most uncommon disease in the Philippine Islands and that two cases only had come under observation. Since this was written, other cases have been reported, some of which have been under treatment by the Army Tropical Board. The disease has never shown a tendency toward epidemicity or communicability.

TUBERCULOSIS.

The appropriation bill for the fiscal year 1910 contained provisions for the establishment of an out-patient dispensary and night camp for tuberculosis, and funds for the construction of 5 small pavilions at Benguet for the treatment of incipient cases.

In view of the fact that the free dispensary conducted by the Philippine Medical School is supported by the Bureau of Health and since it already had a tuberculosis department, it was deemed advisable to aid in expanding the latter rather than to start a new one. The results of this joint work have been most satisfactory and an average of 1,500 cases per month are now being treated in the tuberculosis dispensary. The work at the dispensary in Manila is directly under the charge of Dr. W. E. Musgrave.

At Baguio 2 small pavilions or shacks were constructed; the patients who occupied these improved rapidly and the demands for additional accommodations became so great that 3 additional pavilions were erected. Two cures have resulted and others are improving rapidly.

Considerable difficulty was experienced in procuring a site for the location of a night camp near Manila, to be used for early cases of tuber-

culosis, on account of alleged apprehension of danger from infection and the fear of the people that their property would depreciate in value. An excellent site, however, was finally secured through the courtesy of the Municipal Board by the transfer of the old Deposito ground and buildings at San Juan del Monte to the Bureau of Health. This place is now being remodeled, and it is hoped that in a short while, through the means of an antituberculosis society or league, which a number of prominent citizens have signified their willingness to form, at least 30 incipient cases can be accommodated and in addition a hundred persons in the early stages of the disease can be induced to spend their nights at this camp. The intention is to instruct such persons in the methods of preventing the propagation of this disease and as to the proper steps to take in order to bring about a cure. It is proposed to select as patients those persons who work in offices and other places throughout the city of Manila during the day and to keep them there for a period of three months and then have them return to their homes to carry out the hygienic measures which they been taught at the camp. Several nurses will be detailed for the purpose of visiting these persons in their homes and aiding them in carrying out those things which they have been taught. It is hoped that before the close of the year some of those hopelessly sick with tuberculosis can be accommodated at San Lazaro Hospital in some buildings which are being prepared for this purpose. With the accomplishment of this latter project Manila will be in the front rank of the cities of the world with regard to tuberculosis measures by which fact it is hoped to inaugurate an educational campaign which will result in rapidly diminishing tuberculosis throughout the Philippine Islands.

TYPHOID FEVER.

Typhoid fever is keeping pace with the march of civilization in the Philippine Islands and is therefore gradually increasing. Still it can hardly be said to prevail to any great extent. Most of the outbreaks can be traced to troops which have been brought from the United States. To prevent its establishing itself, regulations have been prepared for the disinfection of excreta, for the protection of the water supply; for the inspection and sale of milk, and for the eradication of flies.

BOARD OF MEDICAL EXAMINERS FOR THE PHILIPPINE ISLANDS.

The Board of Medical Examiners is organized under the provisions of Act No. 310. The members are appointed by the Director of Health and hold office for three years, the term of one of the three members composing the Board expiring each year.

The members of the present Board are: Dr. Isidoro de Santos, president; Dr. Almon P. Goff, member; Dr. Eleanor J. Pond, secretary-treasurer.

THE BOARD OF PHARMACEUTICAL EXAMINERS.

For some years, there have been rumors concerning the irregularities of the Board of Pharmaceutical Examiners, but as the source of these rumors could not be definitely located, no radical action was taken.

During August, however, more tangible evidence became available, and upon the authority of the honorable the Secretary of the Interior a committee was formed consisting of Primo Hizon, Mariano Ocampo, and Manuel Zamora, pharmacists, and Dr. Almon P. Goff, of the Board of Medical Examiners, and Dr. A. P. Preston, of the Board of Dental Examiners.

The committee organized by electing Professor Hizon president and Doctor Goff secretary. A technical committee composed of the three pharmacists was appointed and made a most searching investigation into the methods of the Board, the result of which was the dishonorable dismissal of the president and the member and the exoneration of the secretary-treasurer who had stood out against the guilty ones.

The technical committee performed their duty in a most praiseworthy manner without any remuneration, giving freely of their time and services in the interest of the public welfare.

By direction of the honorable the Secretary of the Interior personal letters were sent to each member of the technical committee and also to Doctor Goff and Doctor Preston thanking them for the efficient manner in which they performed their duties.

The old Board held one examination only, on July 6, 1909, at which 23 applicants were present. Of this number only 1 obtained the required average.

There have been issued during the year 58 apprentice certificates and 1 temporary certificate without examination.

There have been collected from all sources the sum of ₱816. Of this amount ₱420 are examination fees for the examination to be held on July 5, 1910.

The new Board of Pharmaceutical Examiners is composed of: Sr. Hugo Salazar, president; Sr. Andres Garcia, member; and Sr. Rafael Lopez, secretary-treasurer.

BOARD OF DENTAL EXAMINERS.

The Board of Dental Examiners for the Philippine Islands operates under the provisions of Act No. 593 of the Philippine Commission, and consists at present of the following members: Dr. A. Vergel de Dios and Dr. L. C. O'Donnell, secretary-treasurer, the third membership being vacant, who are appointed by the Director of Health for the purpose of examining all applicants for the practice of dentistry in the Philippine Islands and also to advance the interests of the profession.

Dr. L. C. O'Donnell was appointed secretary-treasurer of the Board, December 1, 1909, to fill the vacancy created by the resignation of Dr. A. P. Preston on November 30, 1909.

Two *cirujanos ministrantes,* graduates from Santo Tomas University, were examined during July, 1909, but failed to make the necessary average required by the Board. At the semiannual examination held in January, 1910, there were five *cirujanos ministrantes* as applicants for examination, but due to certain transactions considered improper by the Board it was decided to postpone the examination until the following July hence the candidates were admonished that it would be well for them to use the intervening months for preparation. There are 13 *cirujanos ministrantes* as applicants for the examination to be held July 5, 1910.

There were several violations of the Dental Law during the year and as a result 1 man was arrested in Manila and fined ₱50, and 2 were fined ₱25 each in Pampanga Province.

The Board has been ably assisted in its work by the coöperation of the Philippine Dental Society, which reported the violations and also caused the arrests to be made and securred the necessary information to convict the violators.

The possibility of establishing free clinics throughout the city of Manila is being considered, as there seems to be a necessity for the same, judging by reports received from the various hospitals concerning the number of poor people applying for relief, and endeavors will be made by the Board during the coming year to meet this necessity in some manner.

The Board received during the year ₱150 as fees for the examination of 15 *cirujanos ministrantes.*

BAGUIO HOSPITAL DIVISION.[1]

The period embraced in this report, completes the second year of operation of the new Baguio Hospital, as distinguished from the old Benguet Sanitarium. All sanitarium features have been eliminated, and only patients immediately in need of medical or surgical treatment are admitted.

The total number of patients treated in the hospital during the fiscal year 1910, was 479, an increase of 29 per cent over the preceding year.

The total number of patients treated in the out-patient department during the same period, was 3,460, an increase of 49 per cent over the preceding year.

The total number of visits to the hospital clinic made by out-patients was 7,659, an increase of 46 per cent.

[1] From the report of the chief of the division.

New buildings.—On the side of the hill west of the hospital building, the following cottages have been erected since March, 1910, for treatment of incipient pulmonary tuberculosis:

1. Two cottages, each 20 by 20 by 9 feet for the accommodation of from 2 to 4 patients each, 1 for Filipino men and the other for Filipino women.

2. Two cottages, each 10 by 10 by 9 feet to be used as individual cottages by Americans.

3. A toilet building, containing separate apartments for men and women, each fitted with a wash basin, flush closet, bath tub, and shower. This building contains 2 additional rooms, 1 fitted with a range, for heating bath water, and a slop sink for the cleaning and disinfection of sputum cups; the other to be used as sleeping quarters for the native employee in attendance on these cases. The drainage from this building is connected by tile soil pipes with the septic vault of the main hospital building.

These cottages all have several large wooden drop-windows and one 6-foot sliding glass window. With the floor and windows all open the occupants are practically in the open air day and night, while in case of storm, the windows may be dropped as needed on the sides facing the storm. The buildings all face Mount Santo Tomas, and overlook the valley of the Bued River. This outlook with its ever-changing cloud effects over mountain and valley gives a view of which patients never tire, although necessarily looking at the same scenery for many months.

Improvements.—These may be briefly enumerated as follows:

1. Installation of electric lights, minimizing the danger from fires, not to mention the many other advantages over oil lamps.

2. An increased capacity for hot-water production and storage assuring hot water for baths at any hour. Distilled water is for sale at Baguio and is available for all.

3. The additional small wards accommodating at least 10 native patients, made available by utilizing rooms formerly used for other purposes.

4. Copper screening of windows and doors of kitchen and dining room, and two private rooms, which may be used as a detention ward if necessary. From the large number of flies always present in the wards, it would be a great comfort to patients if the whole hospital building could be screened.

5. A fresh coat of paint of improved colors applied to the hospital and all outbuildings.

6. Additional flower beds, settees, and summer houses have added to the general appearance of the grounds. During the past few months 6 Bilibid prisoners have been assigned to the hospital for outdoor work.

7. On October 1, 1909, the pumping plant was transferred to the Bureau of Public Works, and later its capacity was increased so as to supply the buildings at Government Center as well as the hospital.

THE CLIMATE OF BAGUIO IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

Although an insufficient number of cases of tuberculosis have been treated at the Baguio Hospital to give any statistical data on this subject, nevertheless it may be well to make a preliminary report and record what evidence there is at hand.

Experience the world over has shown that if the hygienic and dietetic treatment of incipient tuberculosis can be carried out under suitable conditions a large percentage of cures will follow, irrespective of the climate in which the treatment is taken. Nevertheless most authorities agree that an equable climate free from sudden extreme changes of temperature, with a bracing stimulating air, moderate elevation, a large amount of sunshine, and minimum of rainfall—all conducive to life in the open air—are advantageous factors in the treatment of this disease.

With the exception of the rainfall, the climate of Baguio fulfills all these beneficial qualifications. During the rainy season in Baguio, the mornings as a rule are clear, bright and invigorating, while the rains occur in the afternoon. During the months of November, December, January, and February, there is seldom any rain, and a finer climate could not be desired. It is the opinion of the writer that the advantages of this climate will be found to far outweigh the disadvantage of humidity.

One food-test case, treated at the Baguio Hospital during the past year, supports this assertion. The case referred to is that of an American school-teacher, who entered the hospital in August, 1909, in the midst of the rainy season with cough and abundant expectoration, anemia, fever, night sweats, emaciation (her weight on admission being 93 pounds, normal weight 118 pounds), a lung involvement showing the second stage of the disease, and sputum loaded with tubercle bacilli. She left the hospital April, 1910, with a fine color, free from cough or expectoration, with very marked improvement in lung signs, with no tubercle bacilli found in sputum after repeated examinations; able to take long walks without fever, weighing 120 pounds. She has been living in a tent since leaving the hospital, and has gained 10 pounds more, making a total gain of 37 pounds. Considering the condition of this patient on admission, the result of treatment in spite of its being carried out during rains and typhoons has been most satisfactory.

During the past season a number of native Government employees afflicted with tuberculosis have attended the hospital clinic. They

were examined and weighed when first seen, and at subsequent visits and almost without exception, these patients gained several pounds in weight, and otherwise improved during the three months that they were stationed in Baguio.

At present one American gentleman, and one Filipino boy are taking the treatment in the new cottages and both are showing steady improvement.

BILIBID PRISON SANITATION DIVISION.

The general sanitation of the prison under the direction of the chief of the division is maintained at a high standard, the system of inspection, hand disinfection, latrines and disposal of garbage having been found entirely satisfactory. During the year the native prisoners have been provided with spoons and are required to eat with them.

A cleaning brigade has been recently organized, the Director of Prisons having detailed 25 short-sentence prisoners for this purpose.

In addition to the ordinary daily routine care it is intended to clean and disinfect one building each day. With that plan each brigade will receive this special treatment every two weeks.

Covered cement cuspidors have been placed at convenient places throughout the prison grounds and their use by those who expectorate is compulsory.

All toilets in the prison grounds are being connected with the city sewer system as rapidly as possible.

The sleeping quarters of the prisoners are being improved, one stone building having been reconstructed with concrete floors and roof, one new concrete brigade-building completed and another is now under construction.

QUARANTINE, DISINFECTION, AND EXAMINATION OF STOOLS.

During the year the prison quarantine was removed from the building in the main prison, which was formerly used, to the small frame building within the hospital enclosure. All prisoners upon admission are still detained for five days as has been customary in the past.

While in quarantine, all prisoners undergo a medical examination which includes a microscopical examination for intestinal parasites.

BACILLI CARRIERS.

During the months, when cholera was prevalent in the provinces all stools were examined for cholera with the result that vibrios were frequently found but they proved not to be the vibrios of cholera.

Statistical information pertaining to this division will be found in another section of this report.

IWAHIG PENAL COLONY (BILIBID PRISON).

The site of this colony, on the Island of Palawan, was formerly considered one of the most unhealthful in the Philippines. An attempt at special colonization by the Spanish Government had to be abandoned on account of the ravages of malaria.

During the year there have been admitted to the hospital 1,314 members of the colony, 16 of whom died.

The daily average of sickness among the colonists was 2.88 per hundred. The average number of colonists was 831.

The yearly death rate was 19.25, to the thousand.

The daily average number of inhabitants at the colony including the colonists was 922. The death rate for the entire colony was 21.69 per thousand. It would have been about one-half of this if the many cases of tuberculosis had not been sent there with the hope that they would improve.

All colonists are examined systematically for evidences of intestinal parasites, and receive prophylactic doses of quinine.

INSPECTION DIVISION.

This division is under the control of the Assistant Director of Health and is charged with the sanitation of the city of Manila, and the suppression of cholera and other epidemic diseases in the provinces. The work of this division is constantly increasing due to the enforcement of the tenement-house regulations, the new cigar-factory regulations, and the building ordinances.

The work of sanitation in Manila is retarded by the necessity of using the Manila personnel for the suppression of cholera in the provinces. As the provincial health organization becomes more perfect, this necessity will disappear and the Manila force will be permitted to remain at home and concentrate its energy in Manila. During the months of May and June of the fiscal year by this report 48 out of 65 assistant sanitary inspectors of the city were engaged combating cholera in nearly all provinces.

Manila's 5 health districts are divided into 62 subdistricts and it should be possible under ordinary conditions to place one assistant sanitary inspector in each subdistrict, but when cholera gets beyond control of the local health officials in the provinces it is necessary to send the Manila men out of the city.

Pampanga is the first province to attempt a health organization upon the lines indicated by this office. It is hoped that other provinces will follow and that in the future it will not be necessary to send any considerable number of Manila men to the provinces.

The sanitary inspectors and assistant sanitary inspectors of Manila will always be available to train the raw material of any province which

desires to follow the example of Pampanga and effect a permanent provincial health organization.

The following table indicates the disposition of the personnel of the inspection division at the end of this fiscal year. The cholera epidemic in Pangasinan is responsible for the large number of men on provincial duty.

Distribution of personnel of the office of the Assistant Director of Health, June 30, 1910.

	Medical inspectors.	Municipal physicians.	Sanitary inspectors.	Assistant sanitary inspectors.	Sanitary police.	Disinfectors.
Station A	1	3	2	5	6	5
Station C	1	2	1	5	4	0
Station I	1	1	1	3	3	0
Station J	1	1	1	3	3	4
Station L	0	1	1	1	3	0
Division of sanitary engineer			2	0	0	0
Provincial duty	6	0	6	48	0	0
San Lazaro Hospital	[a]1	0	0	0	0	0
Bilibid Prison	[b]1	0	0	0	0	0
Office, Assistant Director of Health	1					
On leave	2		1			
Total	15	8	15	65	20	[c]9

[a] Chief, San Lazaro Hospitals division.
[b] Chief prison sanitation division.
[c] Includes 1 chief disinfector and 2 assistant chief disinfectors.

A table to be found in the statistical section of this report shows the extent of the inspections, disinfections, and similar work performed by this division in the city of Manila during the fiscal year.

During the past year the incompetent have been weeded out and the deserving promoted. At present, 60 out of 65 have had the complete course of training including the taking charge of health measures in provincial towns for the suppression of cholera.

This force is not only available and valuable for the prompt suppression of cholera outbreaks but also for the training of provincial inspectors, when the provinces decide to form permanent provincial organizations.

The training of the assistant sanitary inspector corps has been carried on under the personal direction of the Assistant Director of Health. The efficiency of this body of Filipinos has been greatly increased and their discipline and *esprit de corps* exceed expectations. The high standard secured is due to two things—careful selection of applicants and protection against unjust treatment and accusation.

After careful selection the embryo assistant sanitary inspector is placed in Station A, Meisic, where he is taught disinfection in a practical manner, how to make inspection of premises, and how to perform vaccination.

He must acquaint himself thoroughly with the health ordinances,

especially those relating to communicable diseases and building construction. As soon as possible he is sent to the provinces for practical training in the suppression of cholera. If, during his short probation, he shows himself unfit for the duties of assistant sanitary inspector, he is promptly discharged. He is enjoined to employ the maximum of courtesy, but to be firm in carrying out orders. From the beginning complaints have been numerous against these men. Complaints are always carefully investigated. In the majority of instances, the men have been guilty of nothing beyond carrying out instructions to treat all alike. When sanitary requirements are enforced upon certain persons of political or social influence, they consider that they should be exempt from sanitary orders and they vent their spleen upon the assistant sanitary inspector. If the assistant sanitary inspector has been courteous, and has done his duty, he is sustained and assured that so long as he follows his course, his position is secure regardless of the political or social influence of his accuser.

CLERICAL DIVISION.

The following extract from the report of the chief of the clerical division of the Bureau of Health is of general interest.

The year has been marked by the first serious attempts to transfer the Government offices to Baguio. As is usual with first attempts, there were naturally some things that were not satisfactory, but on the whole it is believed that the movement is productive of good. The employees who spent the season in Baguio came back looking and feeling much refreshed and it is believed that the office work, since their return, has gone on in a manner that is unusual at the end of the hot season. One of the principal difficulties is the apparent necessity of maintaining a record division so far from the central office. It is believed that this will be remedied in time and barring delays no serious results will follow if both ends of the line fully understand the requirements. Another serious drawback is the difficulty encountered in separating the families of Filipinos. A Filipino on an average salary of from 50 to 100 pesos per month finds it practically impossible to take his family to Baguio. The cost of transportation is prohibitive in the first place, and should he succeed in overcoming this obstacle the scarcity of houses and cost of living in Baguio are further obstacles to be met. In view of the well-known attachment of the Filipino to his home life, this element becomes a serious one in administering a Government office. In one case in this office an employee drawing 50 pesos per month had a family of 6 girls. His panic at being told that he was obliged to go to Baguio for three months can well be imagined. He said with great sincerity that he desired to obey orders but he could not possibly take his family and he could not possibly leave them unprotected. About 50 per cent of the Filipino employees made the same objection. While it is believed that they will in time become reconciled, it is also believed that the matter of separating families of employees for three months of each year should be seriously considered in all its aspects.

The restlessness among American employees seems to diminish with the growing of settled conditions in the Islands. No considerable casualties are to be noted for this fiscal year and it is believed that the proportion of Americans who will have decided to remain is nearer fixed now than it has yet been and that the movement in personnel will be confined largely to newcomers.

The Filipino employee increases in efficiency and responsibility as time goes on. More original work, more suggestions, more action in emergencies have been noted this year than before. A tendency toward Bureau and Government *esprit de corps* is also noted and an element of coöperation among themselves with a disposition to frown down any undue departure from dignified rule and custom is very apparent. On the whole it may be said that office conditions are much more satisfactory than formerly.

CIVIL HOSPITAL DIVISION.[1]

The following report of the work accomplished by the Civil Hospital division, Bureau of Health, covers the period from July 1, 1909, to June 30, 1910, inclusive.

The total number of patients admitted to the hospital for treatment was 1,555 and they may be classified as follows: Americans and Europeans (Anglo-Saxons), 815, males 561 and females 254; Filipinos 700, males 578 and females 122; Japanese 25, males 8 and females 17; all others, including American Negroes, Chinese, East Indians, and Arabians, 15 (all males). By sexes, total number of hospital patients treated, male 1,162 and female 393. Of the total 1,555 patients, 1,181 were employees of the Philippine Civil Government, while the remaining 374 were employees of the Federal Government, employees of private concerns, people in private life or without occupation.

Of the total patients, 718 were employees of the Civil Government paying for accommodation and subsistence; 463 were Civil Government employees whose salaries do not exceed ₱80 per month and who are, thereby, entitled to free hospital accommodation and subsistence; 151 were private cases (non-Government employees) paying for accommodation and subsistence and the remaining 223 patients were admitted to the hospital as emergency cases and were given free accommodation, subsistence, and treatment.

The classification, in full detail, of the medical, surgical, obstetrical, and gynecological cases of the patients receiving treatment in the hospital during the year has been accomplished by the house surgeon, Dr. Ameen M. Saleeby.

Attention is invited to the fact that in many instances patients were treated for more than one disease and that some of the surgical cases were treated for ailments included in the classification of medical cases, therefore the number of diagnoses will be in excess of the total number of patients admitted to the hospital.

The total number of deaths for the year was 33, or a percentage death rate of 2.13 of the 1,555 patients admitted. Nine of the deaths which occurred were patients admitted to the hospital in a dying condition, making the low death percentage of 1.54 of the total number of patients actually receiving treatment from the hospital staff.

[1] From the report of the superintendent.

Of the total deaths 7 were Americans and Europeans and the remaining 26 were Filipinos. Of the total deaths occurring 20 were persons in the employee of the Civil Government; 3 were persons who were members of the family of civil employees; 1 was a person in private life, and the remaining 9 were emergency cases without regular occupation.

The following is a summary of the work done during the year by the attending physician and surgeon, the attending physician, the visiting surgeon, and the house surgeon.

There were 17,851 patients reporting to the hospital during the year for consultation; 1,555 were examined and admitted to the hospital for treatment; 10,782 were examined and prescribed for and the remaining 5,514 were given advice and treatment in the office. All patients confined in the hospital were seen at least twice daily. There were 128 major operations performed, 219 minor operations, and 15,548 dressings. There were 62 babies delivered during the year.

The total number of prescriptions filled during the year at the hospital dispensary was 18,051.

A complete tabulated report of the medicines dispensed, giving in detail by months the number of prescriptions filled for the employees of each separate Bureau and Department of the Civil Government, has been accomplished by the pharmacist, Mr. Elijah M. Saleeby.

The following is a summary of the administrative work carried on during the year by the superintendent, with the assistance of the undersigned.

On account of the existing conditions at the Civil Hospital the work of administration has been a most difficult task. In spite of all, the administration of the hospital has been carried on in a most effective and practical manner. By careful supervision the extravagance and waste so prevalent during previous years has been reduced to a minimum. The institution has been run on a practical economical basis, but, however, not to such an extent that the hospital necessities needed have been cut down. The officers in charge of the administration of the hospital have worked faithfully and it has been their aim and desire to place the hospital on a businesslike basis.

During the year the subsistence department of the hospital has undergone a complete change. A scientific dietist arrived from the United States and reported for duty September 6, 1909. Since that time the food served, both to patients and employees, has been greatly improved in quality, quantity, and variety and at the same time the average cost per person per day has been reduced considerably.

The average number of persons subsisted per day during the year was 117.36 and the average cost per person per day was ₱0.743.

Much credit is due, in the improvement in the subsistence department, to the fact that supplies were carefully selected and, in buying, the firm that could give the lowest prices on standard goods received the order.

A decided improvement has been made, during the year, on the hospital grounds and without the necessity of the paying of extra labor. During the afternoons when the work in the hospital wards was slack, the muchachos were put to work on making improvements to the grounds and repairs on the building. Places that were formerly unsightly, filled with stagnant water, and the breeding place for mosquitoes are now lawns. The buildings have received repairs of various nature and are kept in as good condition as possible under the circumstances.

During the month of April Dr. H. Eugene Stafford, who has been the principal medical and surgical officer of the Civil Hospital since its foundation, resigned and his place filled temporarily by the detail of Dr. Donald Gregg, of the Philippine Medical School.

CULION LEPER COLONY DIVISION.

The population of the colony, after considerable fluctuation, due to deaths and new arrivals, was 60 less on June 30, 1910, than on the corresponding date of the previous year. At the beginning of the fiscal year, July 1, 1909, there were 1,741 colonists. Six expeditions arrived during the year: July 1, 1909, 185; September 11, 1909, 13; October 2, 1909, 94; December 12, 1909, 191; February 10, 1910, 122; June 18, 1910, 179; and 1 leper was forwarded from Iwahig penal colony, making a total of 785 received. Sixteen children were born during the year, of whom 12 were conceived at the colony. There were 838 deaths, which occurred by month as follows:

July, 1909	57	January, 1910	164
August, 1909	61	February, 1910	66
September, 1909	65	March, 1910	36
October, 1909	43	April, 1910	29
November, 1909	80	May, 1910	22
December, 1909	188	June, 1910	27

Twenty-two lepers escaped during the year, of whom the majority have been returned, and 1 was discharged, leaving the colony with a population of 1,681 on June 30, 1910. The total number of lepers received at the colony to this date is 4,757.

The present population of 1,681 is made up as follows:

	Male.	Female.
Europeans	8	
Chinese	1	
Filipinos	1,017	660
Single	463	301
Married	300	168
Widowed	60	84
Divorced		
Children	198	107

It is still noticeable that the proportion of deaths is much larger among the new arrivals, and that the monthly death rate increases in proportion to the number of expeditions arriving.

PROPERTY DIVISION.[1]

There were received during the year 495 general requisitions which were filled as follows:

Provincial requisitions	217
Health stations	96
Central Free Dispensary	13
Central offices	33
San Lazaro Hospital	9
Civil Hospital	16
Prison sanitation division	17
St. Luke's Hospital	12
Mary J. Johnston Hospital	12
Philippine Medical School	4
Culion leper colony	20
Baguio Hospital division	16
Iwahig penal colony	10
Sanitary engineering division	17
Board of Pharmaceutical Examiners	2
Bureau of Quarantine Service	1
Total	495

To fill the above, the following requisitions were prepared and forwarded: On the Bureau of Supply, 37 for the Bureau of Health, Manila; 30 for the Culion leper colony division; 14 for Baguio Hospital division. On the Bureau of Printing, 177 for all divisions, stations, and offices. Total 258.

For vaccine virus, requisitions were filled to the number of 1,475. This is 95 more than were filled last year. The work of packing and mailing this virus, typewriting receipts, and keeping check on the issues required much careful attention and kept the laboring force busy a good part of their time, especially as the tubes had all to be closed before being sold to the Bureau of Science.

The following is a statement of the amount of vaccine virus accounted for during the year:

	Units.
Amount of virus on hand July 1, 1909	18,300
Received during the year	3,035,805
Total	3,054,105
Expended during the year	3,047,005
On hand July 1, 1910	7,100

From other Bureaus and individuals, there were received and filled 103 requisitions for supplies which were paid for by the requisitioners.

[1] From the report of the chief of the division.

Inter-Bureau vouchers were received from the following sources: Bureau of Supply, 176; Bureau of Science, 1; Bureau of Prisons, 3; Bureau of Agriculture, 1; Bureau of Public Works, 1; total 182.

These were entered on the various cards according to the new system installed at the beginning of the year and receipts were obtained from the various divisions for whatever supplies were transferred to their equipment accounts. Thirty-four purchases in market were made (exclusive of subsistence supplies for hospitals).

There were made during the year, 362 bills of lading covering 225 sihpments by boat and 127 by rail. This is an increase of 25 shipments over last year. It has at times been difficult to attend to all these shipments, especially as the wagon has also been used for transporting labor to the new hospital, for carrying away lumber and for delivering supplies to the local stations and hospitals.

Packages of simple remedies were prepared by the division during the year and expended as follows:

	I.	II.	III.
On hand June 30, 1909	2	6	1
Manufactured during the year	75	138	34
Total	77	144	35
Expended during the year	71	144	35
Remaining on hand July 1, 1910	6	0	0

Total number expended during the year, 250. Boxes were made for these as well as for other shipments by the laborers.

This division is charged with the duty of purchasing subsistence supplies for the various institutions of the Bureau of Health. Every attempt is made to obtain the best value for the smallest outlay and to do so, bids are requested from the merchants who are best prepared to supply the particular goods required. These bids are always carefully considered and compared and when possible similar orders from the various hospitals are combined so as to make large orders to obtain better prices. At the same time every endeavor is made to give all rush requests prompt attention that the requisitioner might not be in convenienced. The shipment of all orders for Culion and Baguio are handled by this division, being first received and checked before being forwarded.

The removal of the Bureau of Health to Baguio during the hot season occasioned the property division considerable extra work in giving special attention to the boxing of typewriters and other breakable supplies. The result was satisfactory and no damage occurred.

During the year, several condemnation proceedings were held at the Civil Hospital, San Lazaro Hospitals, and central office. A complete and thorough check of all property at the Civil Hospital division was twice made during the year. The loading of 6 special boats for leper trips was also superintended.

The installing of the new card system and the work of receiving property at the new hospital have brought additional responsibilities on the property division and every employee has worked faithfully to do his share. Mr. Viana and Mr. Lazam have both had more than they could do, but with overtime and continual perseverance have accomplished most satisfactory results.

THE SANITARY ENGINEERING DIVISION.

The scope of work of this division is of great range, embracing in its advisory supervision and directing capacity, all sanitary engineering and structural work throughout the Philippine Islands.

The following extract is taken from the report of the chief of the division, Mr. George H. Guerdrum.

Statistical tables pertaining to the work of the division will be found in the appropriate place in this report.

CONNECTIONS WITH THE NEW SEWER SYSTEM.

With reference to the progress of the sewer work it may be added that the work is progressing as rapidly as the 20 registered master plumbers doing business in the city of Manila, with a shortage of material from time to time, can handle the same. At the present writing there are many orders with which owners are anxious to comply but which are held up or allowed to drag along for weeks and months, while some plumber is waiting for material from the States, finishing other jobs or breaking in new assistants.

Work has, to a slight extent, been hampered by a temporary injunction enjoining the Director of Health from enforcing a sewer connection order against the premises at 202 Solana, Intramuros. A number of cases against other premises had to be carried to court solely for the reason that house owners considered the injunction as applicable against all premises instead of only the particular premises at 202 Solana. All cases carried to court resulted in a conviction. The temporary injunction against 202 Solana is still pending, but it is confidently believed that it will be dissolved within a short period of time. For further information in this matter attention is invited to the records.

A tabulated account of sewer work accomplished is given at the end of this report.

SANITARY CONTROL OF BUILDING OPERATIONS.

By arrangements with the city engineer a stricter interpretation has been placed on building operations in the light-material sections of the city. The new interpretation will eliminate a tendency toward congestion in the larger barrios which are now about filled with houses. The letter, which is self-explanatory, follows:

CITY OF MANILA,
DEPARTMENT OF ENGINEERING AND PUBLIC WORKS,
OFFICE OF THE CITY ENGINEER,
January 26, 1910.

SIR: You will please hereafter interpret section 124 of the Revised Ordinances to mean that there must be a clear space of one meter and a half between buildings of light material which now exist and all other construction. This will operate to prevent the filling in of the meter and a half required between buildings of light material and the lot line with construction of strong material.

Very respectfully,

CLARENCE W. HUBBELL, *City Engineer.*

To the INSPECTOR OF BUILDINGS, *Manila, P. I.*

HOUSE SANITATION. MIDDEN SHEDS, ETC.

Public midden sheds for the poor of Manila have been increased during the year from 125 to 133 located according to the following health districts:

	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Previously installed	10	26	15	55	19	125
Installed during the year	0	0	4	4	0	8
Total	10	26	19	59	19	133

CULION.

During the year plans were prepared and work commenced on the following buildings for the Culion leper colony:

1. Bath, closet, and laundry pavilions.
2. Administration building.
3. Post-office and store building.
4. Tenement house No. 2.
5. Barracks building.

At the request of the chief, Culion leper colony, and of the chaplain of the colony a sketch of the method of repairing and strengthening the gallery around the inside walls of the church at Culion, was submitted to the Director of Health on May 24, 1910.

BARRACKS BUILDING, MARIVELES.

Plans and bill of materials for a barracks buildings for quarantine station at Mariveles were prepared and completed by this office during February, 1910. The building is of reinforced concrete with tile roof. The cost was ₱6,260.54.

CAVITE.

Crematory.—Plans and bill of materials for a small crematory suitable for small cities such as larger provincial capitals of the Philippine Islands were submitted to the Director of Health on March, 1910. The plans were prepared in compliance with a verbal request from the district health officer of Cavite. The estimated cost was ₱2,718.60.

Matadero.—Plans and bill of materials were prepared by this office for a "matadero" for the Province of Cavite. These plans were prepared in compliance with the letter of the District Health Officer of Cavite addressed to the Director of Health, dated April 4, 1910. The cost was estimated at ₱7,491.30.

TUBERCULOSIS CAMP AT EL DEPOSITO, SAN JUAN DEL MONTE.

During the month of January drainage work was begun at El Depósito for the purpose of eliminating mosquitoes, breeding pools, etc.

Total number of men employed during month, at 75¢	430
Total number of native capatazes, at ₱1	21

Work accomplished.

Filling old quarries, 366 cubic meters, cost	₱121.52
Digging main canal through volcanic tuff, 115 by 1.2 by 3 meters wide	115.92
Cutting brush	111.61
Total	348.53

Services of inspector twenty days, at ₱150 a month.

Plans for sanitary sewage facilities for the reservation have been prepared, the estimated cost for the complete installation being ₱2,148.70.

During the last days of June work was begun on the above project.

SAN LAZARO HOSPITAL.

On March 18, 1910, this office forwarded an estimate of the material and cost of connecting San Lazaro Hospital to the new street sewer system on Calle Cervantes, and a separate estimate for the connection of the buildings of the Bureau of Agriculture on the other side of the hospital, to the same.

SANTA MESA NEW STREET SYSTEM.

The Consulting Architect was interviewed by the sanitary engineer in regard to this matter, and plans have been prepared for a new street approximately parallel to Santa Mesa, for the purpose of securing a right of way to carry the drainage which can not now be carried on Calle Santa Mesa proper on account of existing houses on proposed right of way.

LANDS OFFERED FOR SANITARY BARRIOS, ETC.

During the month of January two offers for the donation of land for municipal purposes and improvements were received and favorable action recommended by the sanitary engineer. One is an offer from Mr. H. M. Pitt, of Chandler & Pitt, real estate agents, to donate all land required for street purposes in Paco adjacent to the proposed extentions of Calle Canonigo. Another offer was from Don Tomas Cabangis, 209 Ilaya, Tondo, who offered half of a large tract of marsh land in the barrio de Vitas, provided that the municipality will fill the entire tract from proposed dredgings of the Vitas channel.

On May 26, 1910, the city engineer forwarded a communication stating that he was informed verbally by Attorney Joseph N. Wolfson, who represents the International Bank, that his clients were ready to consider a proposition to open up the property belonging to the bank, adjacent to the Santa Monica extension past the cotton mill, by ceding the necessary land for street purposes to the municipality. The communication was returned approved with a blueprint showing the proposed new street system, and expenditures from the sanitary barrio fund for this purpose were recommended.

The offer of Messrs. Chandle & Pitt to use as a sanitary barrio the property known as the Pasay race track, which is situated just outside of the city limits of Manila, on Calle Real, Pasay, was forwarded to the Municipal Board requesting information as to whether the Board were disposed to consider a plan to have this area included within the city limits.

On June 15, 1910, a communication was sent to Maj. Thomas L. Hartigan, counsel to the archdiocese of Manila, in which information was requested in regard to the opening of certain street on Singalong. Later, on June 30, 1910, an answer to the above-mentioned letter was received by this office stating that before making final transfer of the property referred to, the counsel should like to be informed as to the probable date of proposed improvement. This communication was thereupon forwarded to the Municipal Board for further information.

NEW GOVERNMENT COMMERCIAL PIERS.

In accordance with instructions, the sanitary engineer made a detailed report on the sanitary conditions of the new Government commercial piers at the end of Calle Beaterio extension, and stated that the only permanent solution of the problem is the prolongation of the sewer system from the Walled City to serve this locality, as any other system is merely a temporary expedient which will sooner or later have to be changed; and that if a sewer can not be at once constructed, the septic-tank system approved by the Bureau of Health, or the pail-conservancy system could be tolerated; provided that it should be understood that whatever system is installed (other than permanent sewer) is merely provisional and liable to removal at any time by order of the Director of Health.

The pail-conservancy system, in lieu of the old insanitary camp latrine with water-carriage system, abandoned by the military encampment, is now being used by the employees at the wharf.

The office of the sanitary engineer remains as previously, largely of a consulting nature. Larger projects initiated by this office are of course reported, but before actual construction is commenced or actual results obtained, the matter is generally passed on to the Municipal Board or the city engineer and there blocked out anew. Building matters pertaining to light, ventilation, and drainage continue to be handled by the sanitary engineer; all building, plumbing, and plans and certificates being sent by the municipality to this office for countersignature. Every effort is made to keep on hand and to give out information of a sanitary or health nature usually handled in a sanitary engineering office.

PLUMBING.

Another important branch of work which now confronts this division is the enforcement of Ordinance No. 125 of the city of Manila which provides for the compulsory remodeling of existing house plumbing and its connection with the new sanitary sewer system. The first difficulty encountered by the sanitary engineer in this regard was the apparent uncertainty of the registered plumbers of the city with regard to the number and class of fixtures to be connected when undertaking a job of plumbing. Together with this uncertainty there appeared to be a certain amount of concerted effort to connect only major portions of a plumbing system such as flush closets, with the new sewer, leaving the smaller but not less important fixtures, such as floor drains of bathrooms, stables, etc.. to take care of themselves.

These efforts were immediately stopped by the drafting and forwarding

of a letter covering these points to all registered plumbers. The aim of the same being to clearly instruct the master plumbers that all water entering a house or premises through the service pipes and the water meter must, when released after use, find its way, by means of approved plumbing, into the sanitary sewer system and at the same time prevent all storm water from entering.

As a large part of the plumbing of the city is done in compliance with sanitary orders emanating from the sanitary engineering division, it is advisable that the persons conducting this work be acquainted with the laws and regulations governing such work. For this purpose examination of the theory and practice of plumbing are and have been held from time to time, as a result of which all persons now holding a license as master plumber have been duly certified by the Municipal Board as qualified to intelligently carry on their trade in compliance with the regulations governing such work.

Any master plumber, showing himself ignorant of the fundamental laws of modern sanitation, or willfully evading or apparently seeking to evade, the plumbing regulations of the city is endangering his license to practice.

By far the most important sanitary plumbing now being carried on by the various branches of the municipality is the connection of all house sewage and drainage with the new sanitary (separate) sewer system recently installed by the municipality at an expense of several millions of pesos.

Unless specifically stated otherwise, all orders for the connection of premises with this system of sewer imply the following conditions:

All water carried into a house or premises, through the service pipes and the water meter should, upon being released after use, find its way into the sanitary sewer system. This must also include liquid stable wastes, contents of flush closets, liquid wastes from factories, etc.

All storm or rain water must be carefully excluded from the system, and carried by means of open or closed drains, gutters, etc., to the street gutters or in case of doubt disposed of in other ways satisfactory to this Bureau.

Plumbers will therefore, in the prosecution of their work, see that all bathrooms, sinks, the immediate vicinity of water hydrants, flush closets, stable drainage, etc., is properly connected with the sewer system. An important feature of this work will be to see that all floor drains connected with the sanitary sewer system are at such elevation that in time they will not become flooded with storm water.

All registered master plumbers are directed to see that sanitary fixtures which they may install are placed only in such rooms or compartments as comply approximately with existing building regulations.

No fixtures will be permitted in low-roofed temporary structures,

nor in buildings which bear evidence of having been surreptitiously or illegally constructed.

No new construction, such as roofing over *patios,* etc., for the purpose of separating storm water from service water will be permitted unless the yard areas are sufficiently large to permit this under section 227, Revised Ordinances, and any such construction shall be done under special building permit in addition to the plumbing permit.

By ordinance regulations plumbers are required, after having accepted a contract for work, to see that a deposit, covering the estimated cost of street connection, be made to the department of sewers and waterworks construction of the city of Manila before the expiration of thirty days from the date of receipt of the order by the owner. By complying promptly with this part of the ordinance the owner fulfills the preliminary part of his order and is allowed the very liberal period of an additional two months for completion of the work, during which time the plumber may order his material, if short, and in other ways arrange for compliance within the time prescribed.

The sanitary engineer has issued circular letters to the master plumbers of Manila advising them as to the sanitary requirements that are demanded and giving instructions in most of the questions that will likely arise in the course of their relations with the Bureau of Health.

Statistical tables pertaining to the sanitary engineering division will be found in the statistical section of this report.

SAN LAZARO HOSPITALS DIVISION.

The number of patients treated in hospital during the year, as reported by the chief of the division, was 1,250, classified as follows: Insane, 223; lepers, 502; cholera, 277; smallpox (varioloid), 197; other diseases, 51.

Insanity.—Among the insane there have been 19 deaths, all due to natural causes, with one exception; there have been no epidemic diseases of importance, and no beriberi among them. These patients have worked as usual in the gardens and around the grounds, besides furnishing assistance in getting the new General Hospital into shape for occupancy. The women have sewed, and have made a great many bandages for use in the Bureau.

There have been 32 discharged cured or improved.

The causes for admission to this department are for the most part simple mania, acute and chronic, simple melancholia, paranoia (monomania), stuporous insanity, imbecility, the deteriorations, some paresis, syphilitic and alcoholic insanity, epileptics, and terminal dementias.

Six insane Scouts are being cared for at present.

Leprosy.—Three hundred and forty-six lepers have entered the leper department of this division during the year; and 219 have been sent to Culion. All cases have of course been examined microscopically at this hospital and found positive. There have been in the neighborhood of a thousand microscopical examinations made. The treatments by X-ray, chaulmoogra oil, mangle rojas, vaccine, and nastin have been carried on during the year.

The X-ray cases have been, as a rule, stationary or somewhat improved, and of all the treatments that by chaulmoogra oil seems to be having the most effect.

The vaccine and nastin have failed to produce much if any results.

The chaulmoogra oil has been used in as large doses as can be conveniently taken, given in conjunction with strychnine and soda bicarbonate baths. This is, of course, a treatment to be continued for a long time—for years in many cases—before coming to definite conclusions. One case which has taken the oil for a year and a half is apparently negative microscopically.

Cholera.—Two hundred and seventy-six cases have been received in the cholera department.

The regular treatment has been by stimulation, heat, intravenous injection of normal salt solution when in collapse, and the use of morphine as needed. At times the salt solution may be given subcutaneously, depending on the condition of the patient. The hypertonic solution has been used quite extensively, but apparently does not bring the patient out of collapse any quicker, or have any greater tendency to prevent nephritis and pulmonary troubles than the normal solution.

For the prevention and treatment of nephritis there has been used a solution of soda bicarbonate of 1 or 1½ per cent, with what appears to be good results, but it must be tried further before any definite statement can be made. It does no harm, certainly, and frequently relieves the comatose condition due to uræmia, or hyperacidity.

There have been a number of cases of cholera among children, and the main fact noticed has been that this disease does not always present in children the symptoms commonly considered to be typical in adults. There is a lack of the purging and vomiting at times, and typical stools are frequently not present.

Smallpox.—In the smallpox department 196 cases have been received, of which 137 were varioloid and 5 smallpox. There have been no deaths. This is in most striking contrast with the condition as regards smallpox of two years ago, in the spring of 1908, when there were many deaths in this hospital, including several Americans, all unvaccinated. The improvement is, of course, entirely due to the widespread and thorough system of vaccination in vogue in these Islands.

Diphtheria.—Twenty-seven cases of diphtheria and suspected diphtheria have been admitted. The principal thing to be noted in this connection is that large doses of antitoxin must be given, and that children, as a rule, should get practically the same amount as adults.

Tetanus.—Six cases of tetanus were treated.

The Italian method, an injection of a watery solution of phenol along the spinal column, was tried with apparently good results in one case, but in others it did not work so well.

Glanders.—Two cases of glanders were admitted, both of which died. These were the only cases of this disease ever admitted to this institution. Both patients had been around horses almost continually. Apparently the two cases had no connection with each other.

Morgue.—In the morgue 668 bodies were handled, and 464 autopsies performed. Twenty-three bodies were cremated.

Administration.—The subsistence for the year has averaged ₱0.305 per day, for each person subsisted, which it will be observed, is a reduction of ₱0.036 from last year. This is largely due to the use which it has been possible to make of garden products. The gardens here are undoubtedly a success.

The space in front of the hospital has been set out with coconut and acacia trees, which seem to be doing well. These grounds are at present being leveled and will be put in good condition as rapidly as possible. The usual amount of repairing and work around the grounds has been done.

The new laundry is well under way and the new ward is started. Work on the sewer system has not been commenced.

Native nurses have been used extensively and successfully during the year. An intern from the Government Medical School recently reported for duty at this institution, and is proving useful.

RECOMMENDATIONS.

For the improvement of the health service of the Philippine Islands, the following recommendations are made:

1. That the next Legislature enact a law for direct Insular control of the municipal health service. The reasons for this recommendation are discussed under the subject, "Municipal health service in the provinces."

2. That a law for the commitment of the insane be passed in order to secure uniformity and promptness in the manner of securing hospitalization for this class of patients.

3. That the Manila Charter be so amended that in cases where it becomes necessary for the city to abate nuisances existing on the property of private individuals, companies, or corporations, the cost of the

same may be assessed against such property and become a prior lien on the same until paid.

4. That an extensive laboratory and research study of cholera be made especially with reference to the influence of bacilli carriers on the propagation of the disease, and also as to other means by which its perpetuation might be secured.

This investigation if it is to be authoritative and of permanent benefit will involve time, money, and men, all of which it is hoped the Legislature will provide.

Respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon,
U. S. Public Health and Marine-Hospital Service,
Director of Health.

The honorable
the SECRETARY OF THE INTERIOR,
Manila, P. I.

APPENDIX.

STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1909, TO JUNE 30, 1910.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1910.]

Population of the city of Manila.

[Health census of 1910.]

Nationality.	Population.	Nationality.	Population.
Americans	4,174	Chinese	14,093
Filipinos	211,859	All others	1,275
Spaniards	2,364		
Other Europeans	644	Total	234,409

Births reported.[1]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	59	37	96	22.99
Filipinos	5,022	4,697	9,719	45.87
Spaniards	19	21	40	16.92
Other Europeans	10	9	19	29.50
Chinese	22	18	40	2.88
All others				
Total and average	5,182	4,782	9,914	42.29

[1] Registration incomplete.

Births, by districts.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	562	558	1,120	39	26	65	1,185
No. 2, Meisic	1,078	1,044	2,122	100	96	196	2,318
No. 4, Sampaloc	915	895	1,810	87	80	167	1,977
No. 5, Tondo	1,540	1,371	2,911	118	123	241	3,152
No. 6, Paco	688	573	1,261	10	11	21	1,282
Total	4,783	4,441	9,224	349	341	690	9,914

Births, by districts, and annual birth rate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,185	39.83
No. 2, Meisic	82,771	2,318	28.00
No. 4, Sampaloc	37,697	1,977	52.44
No. 5, Tondo	62,354	3,152	50.55
No. 6, Paco	21,843	1,282	58.69
Total and average	234,409	9,914	42.29

Births, by districts, according to number of children borne by mother.

Number of births, in the order in which the child was borne, whether first child, second child, etc.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.
First	282	20	573	20	366	16	678	31	280	7	2,174	94
Second	232	6	502	16	441	8	567	23	264	2	2,006	55
Third	184	3	366	19	339	13	557	13	238	6	1,684	54
Fourth	139	8	267	8	272	7	413	16	170	2	1,261	41
Fifth	115	8	173	3	176	6	305	8	109	------	878	25
Sixth	73	2	156	4	146	3	218	5	66	1	659	15
Seventh	48	1	76	5	85	4	135	8	43	2	387	20
Eighth	37	2	72	2	47	3	85	8	26	2	267	17
Ninth	23	3	34	4	33	3	67	7	22	1	184	18
Tenth	25	1	37	4	30	3	58	------	24	1	174	9
Eleventh	10	1	19	------	19	------	28	2	12	1	88	4
Twelfth	8	1	20	1	7	------	23	2	10	------	68	4
Thirteenth	4	1	14	1	7	2	11	1	8	------	44	5
Fourteenth	2	------	4	------	3	------	4	------	5	------	18	------
Fifteenth	3	------	3	------	1	------	4	------	2	------	13	------
Sixteenth	------	------	------	------	------	1	2	1	2	------	4	2
Seventeenth	------	------	1	------	------	------	1	------	------	------	2	------
Nineteenth	------	------	------	------	------	------	------	1	1	------	1	1
Twenty-first	------	------	1	------	------	------	1	------	------	------	2	------
Total	1,185	57	2,318	87	1,977	69	3,152	126	1,282	25	9,914	364

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	54	12.98	Chinese	257	18.23
Filipinos	7,815	36.88	All others	12	9.41
Spaniards	37	15.65			
Other Europeans	14	21.73	Total and average	8,189	34.98

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married	963	Married	633
Divorced	0	Divorced	1
Widowers	307	Widows	484
Single	637	Single	182
Boys	2,957	Girls	2,495
Condition not stated	50	Condition not stated	18
Total	4,914	Total	3,813
Grand total			8,727

Stillbirths, 363.

Number of deaths with medical attendance	4,835
Number of deaths without medical attendance	3,892

Deaths, by age, including transients.

Age.	Residents.	Transients.	Total.
Under 30 days	1,021	9	1,030
30 days to 1 year	2,981	79	3,060
1 year to 2 years	622	25	647
2 years to 5 years	528	19	547
5 years to 10 years	141	7	148
10 years to 15 years	65	5	70
15 years to 20 years	213	37	250
20 years to 25 years	271	59	330
25 years to 30 years	338	52	390
30 years to 40 years	587	108	695
40 years to 50 years	429	59	488
50 years to 60 years	366	39	405
60 years to 70 years	254	26	280
70 years to 80 years	180	7	187
80 years to 90 years	103	5	108
90 years to 100 years	59	1	60
Over 100 years	16		16
Unknown	15	1	16
Total	8,189	538	8,727

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,125	37.82
No. 2, Meisic	82,771	2,051	24.77
No. 4, Sampaloc	37,697	1,457	38.65
No. 5, Tondo	62,354	3,268	52.38
No. 6, Paco	21,843	831	38.04
Total and average	234,409	8,727	37.22

Comparative mortality from January 1, 1901, to June 30, 1910.

Month.	1901		1902		1903	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98
February	689	[a]36.72	706	[a]37.63	511	[a]27.23
March	885	[a]42.66	770	[a]37.06	539	[a]25.94
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21
August	702	[a]33.79	1,712	[a]82.42	862	[b]46.17
September	767	[a]38.15	1,132	[a]56.31	1,228	[b]67.97
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19
November	848	[a]42.18	1,035	[a]51.48	974	[b]53.91
December	858	[a]41.30	753	[a]36.25	894	[b]47.89
Total	9,375	38.30	14,451	59.04	9,358	40.27

[a] Death rate computed on population of 244,732 (Health Department's Census).
[b] Death rate computed on population of 219,941 (Official census, 1903).

Comparative mortality from January 1, 1901, to June 30, 1910—Continued.

Month.	1904		1905		1906	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	796	[a] 42.64	685	[a] 36.69	787	[a] 39.47
February	709	[a] 40.59	608	[a] 36.05	595	[a] 35.28
March	751	[a] 40.23	568	[a] 30.15	600	[a] 32.13
April	748	[a] 41.40	580	[a] 29.82	555	[a] 30.27
May	766	[a] 41.08	526	[a] 28.16	600	[a] 32.13
June	800	[a] 44.28	598	[a] 32.81	698	[a] 36.72
July	866	[a] 46.39	747	[a] 40.00	1,451	[a] 77.72
August	1,032	[a] 55.28	841	[a] 45.08	1,182	[a] 63.31
September	1,064	[a] 58.89	1,013	[a] 56.06	835	[a] 46.22
October	1,018	[a] 54.58	850	[a] 45.51	684	[a] 36.64
November	957	[a] 52.97	944	[a] 52.24	658	[a] 36.14
December	794	[a] 42.53	841	[a] 45.03	597	[a] 31.98
Total	10,801	46.88	8,741	39.74	9,182	41.07

Month.	1907		1908		1909		1910	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	632	[b] 33.31	1,117	[b] 58.87	720	[b] 37.94	729	[c] 36.64
February	473	[b] 27.59	733	[b] 41.29	616	[b] 35.94	638	[c] 35.50
March	464	[b] 24.45	720	[b] 37.94	618	[b] 32.57	642	[c] 32.26
April	416	[b] 22.65	626	[b] 34.09	550	[b] 29.95	594	[c] 30.85
May	462	[b] 24.35	633	[b] 33.34	544	[b] 28.67	604	[c] 30.35
June	402	[b] 21.89	678	[b] 36.92	552	[b] 30.06	646	[c] 33.56
July	515	[b] 27.14	977	[b] 51.49	691	[b] 36.41	----------	----------
August	658	[b] 34.41	1,148	[b] 60.50	679	[b] 35.78	----------	----------
September	768	[b] 41.82	1,362	[b] 74.17	649	[b] 35.34	----------	----------
October	877	[b] 46.22	991	[b] 52.28	700	[b] 36.90	----------	----------
November	725	[b] 39.48	837	[b] 45.58	778	[b] 42.37	----------	----------
December	900	[b] 47.43	824	[b] 43.42	839	[b] 44.21	----------	----------
Total	7,287	[b] 32.59	10,646	[b] 47.62	7,936	[b] 35.50	----------	----------

[a] Death rate computed on population of 219,941 (Official census, 1903).
[b] Death rate computed on population of 223,542 (Health census, 1907).
[c] Death rate computed on population of 234,409 (Health census, 1910).

Mortality compared with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000
1901	2,327	42.93	2,410	43.97	2,077	37.49	2,561	46.22
1902	2,236	41.25	4,483	80.89	5,067	91.46	2,715	49.00
1903	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,932	35.64	1,848	33.72	3,468	62.59	1,984	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.42
1908	2,570	46.14	1,937	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55	2,019	35.85	2,317	41.14
1910	2,009	34.78	1,844	31.57	----------	----------	----------	----------

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)	1		1	1	44	42			89
4. Intermittent fever and malarial cachexia					57	35	12		104
4a. Malarial cachexia					5	1			6
8. Whooping cough					5	7			12
9. Diphtheria and croup					3				3
10. Influenza			1		13	10			24
12. Asiatic cholera			1	1	141	121	6		270
14. Dysentery	2	1	5	1	109	76	6	1	201
17. Leprosy					12	7			19
18. Erysipelas					1	8			9
19. Other epidemic diseases (beri-beri)	2				502	423	41	2	970
20. Purulent infection and septicæmia		2	1	1	10	13	1		28
21. Glanders and farcy					2				2
22. Malignant pustule					1				1
23. Rabies					1				1
24. Actinomycosis, trichinosis, etc						1			1
26. Tuberculosis of the larynx				1	12	7			20
27. Tuberculosis of the lungs	1	1	7	1	582	444	64	1	1,101
28. Tuberculosis of the meninges					16	25	1		42
29. Abdominal tuberculosis			1	1	28	17			42
30. Pott's disease					3	2			5
31. Cold abscess, abscess by congestion						1			1
32. White swelling					1				1
33. Tuberculosis of other organs					3	1			4
34. General tuberculosis					6	5	1		12
36. Syphilis	1		1		3	1	1		7
39. Cancer and other malignant tumors of the buccal cavity					3	7	1		11
40. Cancer and other malignant tumors of the stomach and liver				3	6	4	2		15
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					6	1			7
42. Cancer and other malignant tumors of the female genital organs						13			13
43. Cancer and other malignant tumors of the breast						2			2
44. Cancer and other malignant tumors of the skin						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified	2				14	7			23
46. Other tumors (tumors of the female genital organs excepted)						1			1
47. Acute articular rheumatism					6	4			10
48. Chronic rheumatism and gout					8	5			13
49. Scurvy	1				2	1			4
50. Diabetes	2			2	5				9
51. Exophthalmic goiter						1			1
54. Anæmia chlorosis			1		2	3			6
56. Acute and chronic alcoholism	3				1	2	1		7
59. Other chronic poisoning							1		1
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis						2			2
61. Simple meningitis	2	1			58	62			123
62. Progressive locomotor ataxia					2		4		6
63. Other diseases of the spinal cord					2	3			5
64. Congestion and hemorrhage of the brain		1	2		44	32	4		83
65. Softening of the brain							9		9
66. Paralysis without specified cause	1				3	4	2		10
67. General paralysis	1				6	5	1		13
68. Other forms of mental alienation			2		9	2	3		16
69. Epilepsy					1	4		1	6
70. Convulsions (nonpuerperal, 5 years and over)						1			1
71. Convulsions (under 5 years)	2			1	420	326	9		758
72. Tetanus					160	132			292
74. Other diseases of the nervous system	1				3	1			5
76. Diseases of the ear					1	1			2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis						1			1
78. Acute endocarditis			1		11	14	2		28
79. Organic diseases of the heart	2		1		48	33	16		100
80. Angina pectoris					18	13			31
81. Diseases of the arteries (atheroma, aneurism, etc.)			1	1	17	7	1		27
82. Embolism and thrombosis					3	5			8
IV. Diseases of the respiratory system.									
88. Diseases of the larynx					3	2			5
90. Acute bronchitis	1	2			417	349	4	4	777
91. Chronic bronchitis			1		159	163	22		345
92. Broncho-pneumonia					57	58	1		116
93. Pneumonia					34	40			74
94. Pleurisy					5	5			10
95. Congestion and apoplexy of the lungs	1		2		4	7			14
97. Asthma					10	20			30
98. Pulmonary emphysema					3	1			4
99. Other diseases of the respiratory system (phthisis excepted)					1				1
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					2	1			3
101. Diseases of the pharynx					2	3	1		6
102. Diseases of the esophagus					1		2		3
103. Ulcer of the stomach					2	3			5
104. Other diseases of the stomach (cancer excepted)					12	7	1		20
105. Diarrhea and enteritis (under 2 years)	1	2			96	84			183
105a. Chronic diarrhea and enteritis (under 2 years)	1	1			74	78			154
106. Diarrhea and enteritis (2 years and over)	1		3	1	106	80			191
107. Intestinal parasites					8	9			17
108. Hernias and intestinal obstructions					12	5	2		19
110. Acute yellow atrophy of the liver					6	2	2		10
111. Hydatid tumors of the liver					1				1
112. Cirrhosis of the liver					12	5	1		18
113. Biliary calculi					1	1			2
114. Other diseases of the liver					22	21			43
116. Simple peritonitis (nonpuerperal)			2		6	5			13
117. Other diseases of the digestive system (cancer and tuberculosis excepted)				1	2				3
118. Appendicitis and abscess of the iliac fossa					9	3	1		13
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis				1	26	23			50
120. Bright's disease	1		1		40	49	4		95
121. Other diseases of the kidneys and their adnexa					1	1			2
122. Calculi of urinary tract					3	2			5
123. Diseases of the bladder					2				2
124. Diseases of the urethra, urinary abscess, etc.					1				1
125. Diseases of the prostate			1						1
126. Nonvenereal diseases of the male genital organs					1				1
127. Metritis						1			1
128. Uterine hemorrhage (nonpuerperal)						6			6
129. Uterine tumor (noncancerous)						1			1
131. Cysts and other tumors of the ovary						2			2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VII. The puerperal state.									
134. Accidents of pregnancy	-----	-----	-----	-----	-----	8	-----	-----	8
135. Puerperal hemorrhage	-----	-----	-----	1	-----	29	-----	-----	30
136. Other accidents of labor	-----	-----	-----	-----	-----	6	-----	-----	6
137. Puerperal septicæmia	-----	-----	-----	1	-----	29	-----	-----	30
138. Puerperal albuminuria and convulsions	-----	-----	-----	-----	-----	7	-----	-----	7
140. Other puerperal accidents—sudden death	-----	-----	-----	-----	-----	2	-----	-----	2
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene	-----	-----	-----	-----	4	2	-----	-----	6
143. Furuncle	-----	-----	-----	-----	4	1	-----	-----	5
144. Acute abscess, phlegmon	-----	-----	-----	-----	4	2	-----	-----	6
145. Other diseases of the skin and its adnexa	-----	-----	-----	-----	1	3	-----	-----	4
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones	-----	-----	-----	-----	5	5	-----	-----	10
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)	-----	-----	-----	-----	1	-----	-----	-----	1
X. Malformations.									
150. Congenital malformations (stillbirths excluded)	2	-----	-----	-----	13	9	-----	-----	24
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	2	2	2	1	384	313	4	4	712
152. Other diseases peculiar to early infancy	-----	-----	-----	-----	21	15	-----	-----	36
158. Lack of care	-----	-----	-----	-----	13	7	-----	-----	20
XII. Old age.									
154. Senile debility	-----	-----	1	-----	74	136	-----	-----	211
XIII. External causes.									
155. Suicide by poison	-----	-----	-----	-----	-----	1	1	-----	2
157. Suicide by hanging or strangulation	-----	-----	-----	-----	1	-----	-----	-----	1
160. Suicide by cutting instruments	2	-----	-----	-----	1	-----	-----	-----	3
164. Fractures	1	-----	1	-----	11	3	-----	-----	16
166. Other accidental traumatisms	-----	-----	-----	-----	14	2	3	-----	19
167. Burns and scalds	-----	-----	-----	-----	7	7	1	-----	15
172. Accidental drowning	-----	-----	1	-----	9	3	2	-----	15
173. Inanition (starvation)	-----	-----	-----	-----	-----	1	-----	-----	1
175. Other acute poisonings	-----	1	-----	-----	-----	-----	-----	-----	1
XIV. Ill-defined diseases.									
177. Dropsy	-----	-----	1	-----	-----	-----	-----	-----	1
179. Causes of death unspecified or ill defined	2	1	1	-----	66	52	3	-----	125
Total	39	15	43	20	4,188	3,627	244	13	8,189
Grand total	54		63		7,815		257		8,189

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)					5	2	2		9
4. Intermittent fever and malarial cachexia			1		5				6
4a. Malarial cachexia					2	1			3
9. Diphtheria and croup		1							1
10. Influenza					1				1
12. Asiatic cholera					16	12			28
14. Dysentery	1	1			8	2			12
17. Leprosy					11	6			17
18. Erysipelas					1				1
19. Other epidemic diseases (beri-beri)			1	1	18	11	1		32
26. Tuberculosis of the larynx						1			1
27. Tuberculosis of the lungs			3		122	17	2		144
28. Tuberculosis of the meninges					1		1		2
29. Abdominal tuberculosis					4	2			6
30. Pott's disease			1			1			2
33. Tuberculosis of other organs					1				1
34. General tuberculosis					10	3			13
36. Syphilis					2				2
40. Cancer and other malignant tumors of the stomach and liver					3				3
42. Cancer and other malignant tumors of the female genital organs						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1	5	2			9
48. Chronic rheumatism and gout						1			1
53. Leukæmia							1		1
54. Anæmia chlorosis						1			1
56. Acute and chronic alcoholism	2		1						3
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis							1		1
61. Simple meningitis					2	2			4
64. Congestion and hemorrhage of the brain			2		5	1			8
65. Softening of the brain							1		1
66. Paralysis without specified cause							1		1
67. General paralysis			1						1
68. Other forms of mental alienation					1				1
71. Convulsions (under 5 years)					14	7			21
72. Tetanus			1		2	1	1		5
76. Diseases of the ear			1						1
III. Diseases of the circulatory system.									
77. Pericarditis					2	1			3
78. Acute endocarditis						1			1
79. Organic diseases of the heart	1				5	3	2		11
80. Angina pectoris					1	1			2
81. Diseases of the arteries (atheroma, aneurism, etc.)						3			3
82. Embolism and thrombosis					1				1
IV. Diseases of the respiratory system.									
90. Acute bronchitis					10	6	1		17
91. Chronic bronchitis					4	6			10
92. Broncho-pneumonia	1		1		2	2			6
93. Pneumonia	2				7	1			10
95. Congestion and apoplexy of the lungs					2				2
96. Gangrene of the lungs					1	1			2
97. Asthma					2	2			4

Number of deaths, with causes, occurring among transients in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1				1
101. Diseases of the pharynx						1			1
103. Ulcer of the stomach					1				1
105. Diarrhea and enteritis (under 2 years)	1				5	2			8
105a. Chronic diarrhea and enteritis (under 2 years)					2	1			3
106. Diarrhea and enteritis (2 years and over)	1				7	5	1		14
107. Intestinal parasites					1				1
108. Hernias and intestinal obstructions					1				1
109. Other diseases of the intestines					1				1
112. Cirrhosis of the liver	1				4				5
113. Biliary calculi					1				1
114. Other diseases of the liver	1		2		1				4
116. Simple peritonitis (nonpuerperal)		1	1						2
117. Other diseases of the digestive system (cancer and tuberculosis excepted)			1						1
118. Appendicitis and abscess of the iliac fossa	1				1				2
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					1	1			2
120. Bright's disease					7	2			9
121. Other diseases of the kidneys and their adnexa						1			1
122. Calculi of the urinary tract					3				3
VII. The puerperal state.									
134. Accidents of pregnancy						2			2
135. Puerperal hemorrhage						1			1
136. Other accidents of labor						1			1
137. Puerperal septicæmia						2			2
138. Puerperal albuminuria and convulsions				1					1
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle						1			1
145. Other diseases of the skin and its adnexa					1				1
X. Malformations.									
150. Congenital malformations (stillbirths excluded)						1			1
XI. Early infancy.									
151. Congenital debility, icterus and sclerema		1		1	3	6			11
XII. Old age.									
154. Senile debility					2	3			5
XIII. External causes.									
157. Suicide by hanging or strangulation					1				1
164. Fractures	1				2				3
166. Other accidental traumatisms					3	1			4
167. Burns and scalds			1		1				2
176. Other external violence					19				19
XIV. Ill-defined diseases									
179. Causes of death unspecified or ill defined					2	4			6
Total	13	4	19	4	347	136	15		538
Grand total	17		23		483		15		538

Number of deaths by nationality, sex, and age.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)													1								8	10							4	10		
4. Intermittent fever and malarial cachexia													4	1							14	10							6	2		
4a. Malarial cachexia																													2			
8. Whooping cough													4	2							1	4										
9. Diphtheria and croup																		1			2								1			
10. Influenza													3	4							3	2								1		
12. Asiatic cholera													6	12							31	28							7	10		
14. Dysentery						1				1	1		12	7			1	1		1	61	49		1					18	8		
17. Leprosy																													1			
18. Erysipelas					1	1								5								1										
19. Other epidemic diseases (beri-beri)					14	11			2				404	332		1					28	19	1						2	3		
20. Purulent infection and septicæmia		1			2	2							2	4							3	1										
23. Rabies																													1			
26. Tuberculosis of the larynx																					1	1										
27. Tuberculosis of the lungs													9	8							45	43							9	6		
28. Tuberculosis of the meninges													8	11							3	8	1						1	1		
29. Abdominal tuberculosis													3								4	2								2		
30. Pott's disease																					2	1										
33. Tuberculosis of other organs																						1										
34. General tuberculosis													2									2										
36. Syphilis													1																	1		
39. Cancer and other malignant tumors of the buccal cavity																														1		
45. Cancer and other malignant tumors of other organs or of organs not specified																						1										
47. Acute articular rheumatism													1																			
48. Chronic rheumatism and gout														1																		
49. Scurvy									1				1																			
54. Anæmia, chlorosis														1																		
II. Diseases of the nervous system and the organs of special sense.																																
61. Simple meningitis		1			1				1				30	29			1				24	31							1	1		
63. Other diseases of the spinal cord																						2								1		
64. Congestion and hemorrhage of the brain						1																							1			
69. Epilepsy													1																	1		1

71. Convulsions (under 5 years)	1				67	59	4		1			1	345	262	4						22	12	1													
72. Tetanus					151	124							2	2							1	1								1						
74. Other diseases of the nervous system																												1								
76. Diseases of the ear																					1	1														
III. Diseases of the circulatory system.																																				
77. Pericarditis														2																						
78. Acute endocarditis													1	2							1	1								2						
79. Organic diseases of the heart													1	2							1							2								
IV. Diseases of the respiratory system.																																				
88. Diseases of the larynx													1	1							2	1														
90. Acute bronchitis					11	8			1	1			355	279	4	3		1			59	64	1					2		1		1				
91. Chronic bronchitis					1								84	78	1						58	61	1					3		1						
92. Broncho-pneumonia					1	2					1		41	34							12	17	1					2		2						
93. Pneumonia					1								12	13							5	3						1		1						
94. Pleurisy													3	1								2														
96. Congestion and apoplexy of the lungs						1							1															1								
97. Asthma													2	3							1	3						1								
V. Diseases of the digestive system.																																				
100. Diseases of the mouth and its adnexa													1	1							1															
101. Diseases of the pharynx																					2	1								2						
104. Other diseases of the stomach (cancer excepted)						1							6	2							1															
105. Diarrhea and enteritis (under 2 years)					4	2			1	1			72	54			1	1			25	30														
105a. Chronic diarrhea and enteritis (under 2 years)									1	1			35	26							41	53														
106. Diarrhea and enteritis (2 years and over)																	1		1		87	63						7		4						
107. Intestinal parasites														1							6	3														
108. Hernia and intestinal obstructions													1																							
110. Acute yellow atrophy of the liver													2								2	1														
112. Cirrhosis of the liver													1																							
114. Other diseases of the liver													10	11							2	3														
116. Simple peritonitis (nonpuerperal)														1					1		1															
118. Appendicitis and abscess of the iliac fossa														1								1														
VI. Diseases of the genito-urinary system and its adnexa.																																				
119. Acute nephritis						1						1	11	6							7	7						2								
120. Bright's disease													3	3							9	6								2						
123. Diseases of the bladder					1								1																							
VIII. Diseases of the skin and cellular tissue.																																				
142. Gangrene													1									1								1						
144. Acute abscess, phlegmon													1	1							2	1														
145. Other diseases of the skin and its adnexa													2	1								2														

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones													1	2							2	2										
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)																					1											
X. Malformations.																																
150. Congenital malformations (stillbirths excepted)	2				11	7							1								1	2								1		
XI. Early infancy.																																
151. Congenital debility, icterus and sclerema	2	2	2	2	269	206	4	4		1			117	112							1	1										
152. Other diseases peculiar to early infancy					19	15							2																			
158. Lack of care					3	3							9	4							1											
XIII. External causes.																																
164. Fractures													1								1								1			
166. Other accidental traumatisms																						1										
167. Burns and scalds													1								3	2							1	1		
172. Accidental drowning																					2	1							1			
173. Inanition (starvation)														1																		
175. Other acute poisonings										1																						
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined					3					1			48	38			1				6	10										
Total	5	4	2	2	560	445	8	4	8	7	2	2	1,667	1,361	9	4	5	4	2	1	592	583	6	1					79	67		2
Grand total	9		4		1,005		12		15		4		3,028		13		9		3		1,175		7						146		2	

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)					4	6							8	6			1				7	4	1						5	1	1	
4. Intermittent fever and malarial cachexia			1		4	1							7	4	1						4	5	2						6	3	2	
4a. Malarial cachexia													1								1	1								1		
10. Influenza													1								1									1		
12. Asiatic cholera					5	3							15	9							18	12							18	18	1	
14. Dysentery					2	2							5	3							4	1			1		2		1			
17. Leprosy					1								3	1							3	4							4	5		
19. Other epidemic diseases (beri-beri)					3	1							18	9							8	15	1						10	11		1
20. Purulent infection and septicæmia					1																								1	1	1	
21. Glanders and farcy													1																			
26. Tuberculosis of the larynx														3							2	1							1			
27. Tuberculosis of the lungs					7	3						1	59	18	3				1		86	44	1		1				80	77	10	
28. Tuberculosis of the meninges					1	1							2								1	2							1	1		
29. Abdominal tuberculosis					3								3	3								2								1		
30. Pott's disease														1															1	1		
33. Tuberculosis of other organs													1								1								1			
34. General tuberculosis					1								1	1							6								2			
36. Syphilis											1										1											
42. Cancer and other malignant tumors of the female genital organs						1																1										
45. Cancer and other malignant tumors of other organs or of organs not specified														1							2				1					1		
46. Other tumors (tumors of the female genital organs excepted)														1																		
47. Acute articular rheumatism					1								1																			
49. Scurvy																					1											
50. Diabetes																									1							
53. Leukæmia																							1									
54. Anæmia, chlorosis													1	1																1		
56. Acute and chronic alcoholism																									2				1			
59. Other chronic poisonings																															1	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis																						1										
61. Simple meningitis						1															1	1										
64. Congestion and hemorrhage of the brain					1																	1				1			1	1		
65. Softening of the brain																															2	
67. General paralysis														1																1	1	
68. Other forms of mental alienation																					1							3	1			
69. Epilepsy																														2		
70. Convulsions (nonpuerperal, 5 years and over)																						1										
72. Tetanus					1	1							1						1		4	1							2			
74. Other diseases of the nervous system													1																1			
76. Diseases of the ear																											1					
III. Diseases of the circulatory system.																																
78. Acute endocarditis					2	1							1										1					2	3			
79. Organic diseases of the heart													1	2							3	2						1	2	1		
80. Angina pectoris													2	2														1	3			
81. Diseases of the arteries, atheroma, aneurism, etc																											1		1			
82. Embolism and thrombosis																					1							1				
IV. Diseases of the respiratory system.																																
91. Chronic bronchitis																						1										
92. Broncho-pneumonia																												1	1			
93. Pneumonia													1	2							5	1						4	1			
94. Pleurisy																												1				
95. Congestion and apoplexy of the lungs						1															1	1			1				1			
96. Gangrene of the lungs																					1											
97. Asthma						1																										

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
XIII. External causes.																																
155. Suicide by poison															1																	
157. Suicide by hanging or strangulation													1																			
160. Suicide by cutting instruments																									1							
164. Fractures													3								4								2			
166. Other accidental traumatisms					1								1	1							2										1	
167. Burns and scalds																			1								1			1		
172. Accidental drowning													1	1					1								1	1				
176. Other external violence																					4						3					
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined													2						1								3					
Total			1		43	24	2				2	1	152	88	7		1		4	1	187	130	7		8		8	2	171	130	20	1
Grand total			1		67		2				3		240		7		1		5		317		7		8		10		351		21	

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)	---	---	---	1	5	1	---	---	---	---	1	---	4	1	---	---	---	---	---	---	2	1	---	---	---	---	---	---	---	1	---	---
4. Intermittent fever and malarial cachexia	---	---	---	---	3	---	2	---	---	---	---	---	2	1	2	---	---	---	---	---	3	2	1	---	---	---	---	---	2	---	---	---
4a. Malarial cachexia	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8. Whooping cough	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10. Influenza	---	---	---	---	---	---	---	---	---	---	---	---	1	1	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---
12. Asiatic cholera	---	---	---	1	14	9	2	---	---	---	---	---	13	8	---	---	---	---	---	---	8	5	2	---	---	---	1	---	5	7	---	---
14. Dysentery	---	---	---	---	2	---	---	---	---	---	---	---	1	---	3	---	1	---	1	---	1	---	1	---	---	---	---	---	---	1	---	---
17. Leprosy	---	---	---	---	1	1	---	---	---	---	---	---	4	1	---	---	---	---	---	---	1	---	---	---	---	---	---	---	3	---	---	---
18. Erysipelas	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---
19. Other epidemic diseases (beri-beri)	---	---	---	1	5	12	5	---	---	---	---	---	3	7	7	---	---	---	1	---	1	5	5	---	---	---	---	---	4	2	9	---
20. Purulent infection and septicæmia	---	---	---	---	---	2	---	---	---	1	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	2	---	---
21. Glanders and farcy	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22. Malignant pustule	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---
26. Tuberculosis of the larynx	---	---	---	---	4	1	---	---	---	---	---	---	1	1	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---
27. Tuberculosis of the lungs	---	---	---	---	76	48	8	---	---	---	3	---	97	56	12	---	---	---	2	---	53	27	15	---	---	1	2	---	53	42	6	---
28. Tuberculosis of the meninges	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29. Abdominal tuberculosis	---	---	---	1	1	---	---	---	---	---	---	---	4	1	---	---	---	---	1	---	3	2	---	---	---	---	---	---	1	1	---	---
30. Pott's disease	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
32. White swelling	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
33. Tuberculosis of other organs	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
34. General tuberculosis	---	---	---	---	1	2	---	---	---	---	---	---	2	---	1	---	---	---	---	---	1	1	---	---	---	---	---	---	---	1	---	---
36. Syphilis	---	---	---	---	---	---	---	---	---	---	---	---	1	---	1	---	---	---	---	---	1	---	---	---	1	---	---	---	---	---	---	---
39. Cancer and other malignant tumors of the buccal cavity	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	1	---	1	---
40. Cancer and other malignant tumors of the stomach and liver	---	---	---	---	2	---	1	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	1	3	---	---	---	---
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum	---	---	---	---	1	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---
42. Cancer and other malignant tumors of the female genital organs	---	---	---	---	---	2	---	---	---	---	---	---	---	3	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	4	---	---
43. Cancer and other malignant tumors of the breast	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---
45. Cancer and other malignant tumors of other organs or of organs not specified	---	---	---	---	1	---	---	---	---	---	1	---	1	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	2	---	---	---
47. Acute articular rheumatism	---	---	---	---	1	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	2	---	---
48. Chronic rheumatism and gout	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
49. Scurvy	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50. Diabetes	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---
51. Exophthalmic goiter	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
54. Anæmia, chlorosis	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	1	---	---	---
56. Acute and chronic alcoholism	---	---	---	---	---	---	---	---	1	---	1	---	---	---	---	---	---	---	---	---	---	---	1	---	1	---	---	---	1	---	---	---

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis															1							1										
61. Simple meningitis					1																											
62. Progressive locomotor ataxia							1																									
63. Other diseases of the spinal cord					1																							1				
64. Congestion and hemorrhage of the brain					2	7							3	1	2						2	2	2					6	1			
65. Softening of the brain							3								1								2							1		
66. Paralysis whithout specified cause									1														1									
67. General paralysis			1		1								2	2																		
68. Other forms of mental alienation					2		1				1		1		1						1		1					2	1			
69. Epilepsy														1																		
72. Tetanus					1								1	1	1																	
74. Other diseases of the nervous system					1				1																							
III. Diseases of the circulatory system.																																
77. Pericarditis													1																			
78. Acute endocarditis							1						1	1								3										
79. Organic diseases of the heart	1				2	3	5		1				7	1	1		1				2	7	7					1	5	2		
80. Angina pectoris					1	2							2								2	1						3	1			
81. Diseases of the arteries, atheroma, aneurism, etc			1											1							2							2				
82. Embolism and thrombosis						1																1							1			
IV. Diseases of the respiratory system.																																
90. Acute bronchitis						1																							1			
91. Chronic bronchitis						1									1						1	1	3					3	6	2		
92. Broncho-pneumonia									1												1								1			
93. Pneumonia					1								2	3			1				1	2						1	1			
94. Pleurisy						1								1																		
95. Congestion and apoplexy of the lungs			1			2																1										
96. Gangrene of the lungs						1																										
97. Asthma						2								2							1							1				

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
XIII. External causes.																																
155. Suicide by poison																												1				
157. Suicide by hanging or strangulation																											1					
160. Suicide by cutting instruments																					1											
164. Fractures					1						1										1				1			2				
166. Other accidental traumatisms					2		2						3								2						3					
167. Burns and scalds					1								2																	1		
172. Accidental drowning					2																		1									
176. Other external violence					2								4								2						3					
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined	1				1		1						1	3							1	1						1				
Total	6		3	6	155	122	37		6	2	11	1	185	125	36		3		6	1	107	76	43		5	1	5	1	120	96	24	
Grand total	6		9		277		37		8		12		310		36		3		7		183		43		6		6		216		24	

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases.																									
1. Typhoid fever (abdominal typhus)					1	3											1		1	1	49	44	2		98
4. Intermittent fever and malarial cachexia					7	6	2												1		62	35	12		110
4a. Malarial cachexia					2																7	2			9
8. Whooping cough																					5	7			12
9. Diphtheria and croup																		1			3				4
10. Influenza			1		4	1													1		14	10			25
12. Asiatic cholera					16	15	1						1	2					1	1	157	133	6		298
14. Dysentery			1		10	6	2										3	2	5	1	117	78	6	1	213
17. Leprosy					2	1															28	13			56
18. Erysipelas						1															2	8			10
19. Other epidemic diseases (beri-beri)					20	7	14										2		1	1	520	434	42	2	1,002
20. Purulent infection and septicæmia					1	1	1											2	1	1	10	13	1		28
21. Glanders and farcy																					2				2
22. Malignant pustule																					1				1
23. Rabies																					1				1
24. Actinomycosis, trichinosis, etc						1																1			1
26. Tuberculosis of the larynx				1	3															1	12	8			21
27. Tuberculosis of the lungs			2		129	89	11	1					1				1	1	10	1	704	461	66	1	1,245
28. Tuberculosis of the meninges						1															17	25	2		44
29. Abdominal tuberculosis					5	4								1					1	1	27	19			48
30. Pott's disease																			1		3	3			7
31. Cold abscess and abscess by congestion						1																1			1
32. White swelling																					1				1
33. Tuberculosis of other organs																					4	1			5
34. General tuberculosis						1															16	8	1		25
36. Syphilis					1												1		1		5	1	1		9
39. Cancer and other malignant tumors of the buccal cavity					2	5															3	7	1		11
40. Cancer and other malignant tumors of the stomach and liver				2	4	3	1													3	9	4	2		18
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					2	1															6	1			7
42. Cancer and other malignant tumors of the female genital organs						1																14			14
43. Cancer and other malignant tumors of the breast																						2			2
44. Cancer and other malignant tumors of the skin						1																1			1
45. Cancer and other malignant tumors of other organs or of organs not specified					13	6											2		1	1	19	9			32

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases—Continued.																									
46. Other tumors (tumors of the female genital organs excepted)						2																1			1
47. Acute articular rheumatism					3	4															6	4			10
48. Chronic rheumatism and gout																					8	6			14
49. Scurvy																	1				2	1			4
50. Diabetes				2	5												2			2	5				9
51. Exophthalmic goiter																						1			1
53. Leukæmia																							1		1
54. Anæmia, chlorosis																			1		2	4			7
56. Acute and chronic alcoholism	1					1											5		1		1	2	1		10
59. Other chronic poisonings																							1		1
II. Diseases of the nervous system and of the organs of special sense.																									
60. Encephalitis																						2	1		3
61. Simple meningitis					1	1							1				2	1			60	64			127
62. Progressive locomotor ataxia					2		3														2		4		6
63. Other diseases of the spinal cord																					2	3			5
64. Congestion and hemorrhage of the brain		1	3		33	19												1	4		49	33	4		91
65. Softening of the brain							1																10		10
66. Paralysis without specified cause					3	4	2										1				3	4	3		11
67. General paralysis	1				3	1											1		1		6	5	1		14
68. Other forms of mental alienation			1																2		10	2	3		17
69. Epilepsy																					1	4		1	6
70. Convulsions (nonpuerperal, 5 years and over)																						1			1
71. Convulsions (under 5 years)																	2			1	434	333	9		779
72. Tetanus																			1		162	133	1		297
74. Other diseases of the nervous system																	1				3	1			5
76. Diseases of the ear																			1		1	1			3
III. Diseases of the circulatory system.																									
77. Pericarditis					1																2	2			4
78. Acute endocarditis			1		3	2													1		11	15	2		29
79. Organic diseases of the heart			1		31	12	2						1				3		1		58	36	18		111
80. Angina pectoris					3	5															19	14			33

81. Diseases of the arteries, atheroma, aneurism, etc					13	8	1												1	1	17	10	1		80
82. Embolism and thrombosis					2	2															4	5			9
IV. Diseases of the respiratory system.																									
88. Diseases of the larynx						1															3	2			5
90. Acute bronchitis																	1	2			427	355	5	4	794
91. Chronic bronchitis			1		18	20	14												1		163	169	22		355
92. Broncho-pneumonia					1	3											1		1		59	60	1		122
93. Pneumonia	1				7	9											2				41	41			84
94. Pleurisy					1																5	5			10
95. Congestion and apoplexy of the lungs					3												1		2		6	7			16
96. Gangrene of the lungs																					1	1			2
97. Asthma					6	11															12	22			34
98. Pulmonary emphysema					2																3	1			4
99. Other diseases of the respiratory system (phthisis excepted)																					1				1
V. Diseases of the digestive system.																									
100. Diseases of the mouth and its adnexa																					3	1			4
101. Diseases of the pharynx																					2	4	1		7
102. Diseases of the esophagus					1																1		2		3
103. Ulcer of the stomach					1	2															3	3			6
104. Other diseases of the stomach (cancer excepted)					1	3															12	7	1		20
105. Diarrhea and enteritis (under 2 years)																	2	2			101	86			191
105a. Chronic diarrhea and enteritis (under 2 years)																	1	1			76	79			157
106. Diarrhea and enteritis (2 years and over)			2	1	7	8											2		3	1	113	85	1		205
107. Intestinal parasites					2																9	9			18
108. Hernia and intestinal obstructions					5	1	1														13	5	2		20
109. Other diseases of the intestines					1																1				1
110. Acute yellow atrophy of the liver					1	1															6	2	2		10
111. Hydatid tumors of the liver																					1				1
112. Cirrhosis of the liver					6	3	1										1				16	5	1		23
113. Biliary calculi					1	1															2	1			3
114. Other diseases of the liver					2	3											1		2		23	21			47
116. Simple peritonitis (nonpuerperal)					1													1	3		6	5			15
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1														1	1	2				4
118. Appendicitis and abscess of the iliac fossa					1												1				10	3	1		15
VI. Diseases of the genito-urinary system and its adnexa.																									
119. Acute nephritis					1	3														1	27	24			52
120. Bright's disease					19	28											1		1		47	51	4		104
121. Other diseases of the kidneys and their adnexa																					1	2			3
122. Calculi of the urinary tract					2																6	2			8
123. Diseases of the bladder																					2				2
124. Diseases of the urethra, urinary abscess, etc					1																1				1
125. Diseases of the prostate			1																1						1
126. Nonvenereal diseases of the male genital organs																					1				1

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
IV. Diseases of the genito-urinary system and its adnexa—Continued.																									
127. Metritis						1																1			1
128. Uterine hemorrhage (nonpuerperal)																						6			6
129. Uterine tumor (noncancerous)																						1			1
131. Cysts and other tumors of the ovary						1																2			2
VII. The puerperal state.																									
134. Accidents of pregnancy																						10			10
135. Puerperal hemorrhage																				1		30			31
136. Other accidents of labor																						7			7
137. Puerperal septicæmia																				1		31			32
138. Puerperal albuminuria and convulsions																				1		7			8
140. Other puerperal accidents—sudden death																						2			2
VIII. Diseases of the skin and cellular tissue.																									
142. Gangrene																					4	2			6
143. Furuncle					1	2															4	2			6
144. Acute abscess, phlegmon																					4	2			6
145. Other diseases of the skin and its adnexa																					2	3			5
IX. Diseases of the organs of locomotion.																									
146. Nontuberculous diseases of the bones																					5	5			10
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)																					1				1
X. Malformations.																									
150. Congenital malformations (stillbirths excepted)																	2				13	10			25

XI. Early infancy.																									
151. Congenital debility, icterus, and sclerema																2	3	2	2	387	319	4	4	723
152. Other diseases peculiar to early infancy																				21	15			36
153. Lack of care																				13	7			20
XII. Old age.																									
154. Senile debility			1		76	139												1		76	139			216
XIII. External causes.																									
155. Suicide by poison																					1	1		2
157. Suicide by hanging or strangulation																				2				2
160. Suicide by cutting instruments	1															2				1				3
164. Fractures	1															2		1		13	3			19
166. Other accidental traumatisms					3	1														17	3	3		28
167. Burns and scalds						2							1					1		8	7	1		17
172. Accidental drowning												2		1				1		9	3	2		15
173. Inanition (starvation)																					1			1
175. Other acute poisonings																	1							1
176. Other external violence					1															19				19
XIV. Ill-defined diseases.																									
177. Dropsy			1															1						1
179. Causes of death unspecified or ill defined					1	2						2	1	2		2	1	1		68	56	3		131
Total	5	1	16	6	509	461	57	1				8	5	3		52	19	62	24	4,585	3,763	259	18	8,727
Grand total	6		22		970		58					13		3		71		86		8,298		272		8,727

Deaths, by occupations.

Occupation.	Number.	
	Male.	Female.
Professional:		
Architects, artists, teachers of art, etc	7	1
Clergymen, priests, nuns, etc	8	4
Engineers and surveyors	2	------
Journalists	------	------
Lawyers	3	------
Musicians and teachers of music	16	------
Nurses and midwives	1	2
Physicians and surgeons	7	------
Teachers (schools)	5	3
Others of this class	7	------
Clerical and official:		
Bookkeepers, clerks, and copyists	127	1
Bankers, brokers, and officials of companies	5	------
Collectors, auctioneers, and agents	9	------
Stenographers and typewriters	------	------
Telegraph and telephone operators	3	------
Others of this class	4	------
Mercantile and trading:		
Apothecaries, pharmacists, etc	13	------
Commercial travelers	8	------
Merchants and dealers	49	5
Hucksters and peddlers	5	2
Shopkeepers	18	63
Others of this class	1	------
Public entertainment:		
Hotel and boarding house keepers	2	------
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	1	------
Personal service, police and military:		
Barbers and hairdressers	15	------
Janitors and sextons	18	1
Policemen, watchmen, and detectives	14	------
Soldiers, sailors, and marines	10	------
Others of this class	5	------
Laboring and servant:		
Laborers (not agricultural)	604	4
Launderers	21	139
Servants	57	39
Manufacturing and mechanical industry:		
Artificial-flower and paper-box makers	------	------
Bakers and confectioners	5	------
Manufacturing and mechanical industry—Continued.		
Blacksmiths	8	------
Boot, shoe, and slipper makers	11	------
Brewers, distillers, and rectifiers	1	------
Butchers	4	5
Cabinetmakers and upholsterers	------	------
Carpenters and joiners	79	------
Cigar makers and tobacco workers	31	86
Clock and watch repairers, jewelers, etc	19	1
Compositors, printers, etc	16	1
Coopers	------	------
Embroiderers (gold, silk, etc.)	------	11
Engineers and firemen (not locomotive)	38	------
Glass blowers and glass workers	------	------
Hat and cap makers	8	------
Iron and steel workers	2	------
Leather makers	2	------
Leather workers	2	------
Machinists	12	------
Marble and stone cutters	6	------
Masons (brick and stone)	8	------
Mill and factory operatives	1	1
Millers (flour and grist)	------	------
Milliners	------	------
Painters, glaziers, and varnishers	28	------
Plumbers, gas and steam fitters	1	------
Tailors, dressmakers, and seamsters	38	179
Tinners and tinware makers	7	------
Others of this class	41	3
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	20	------
Draymen, drivers, and teamsters	57	------
Farmers, planters, and farm laborers	64	2
Gardeners, florists, nurserymen, etc	1	------
Livery-stable keepers and hostlers	2	------
Lumbermen and raftsmen	1	------
Miners and quarrymen	7	------
Sailors, pilots, fishermen, and oystermen	110	5
Steam railroad employees	------	------
Stock raisers, herders, and drovers	------	1
Others of this class	2	------
All other occupations	97	33
Total	1,774	592
Grand total	2,366	

Baguio Hospital Division.

MEDICAL CASES.

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Alcoholism	4						4	
Anemia	4						4	2
Asthma	1			1			2	2
Beriberi				1			1	
Bronchitis:								
Acute	1			8	1		10	1
Chronic				1			1	
Broncho-pneumonia, acute	1			4			5	1
Carcinoma of stomach				1			1	1
Cholecystitis, acute				1			1	
Cholera Asiatica	1						1	
Cirrhosis of liver, atrophic				1			1	
Colitis	1						1	
Constipation, acute	2			5			7	2
Convalescent from typhoid fever	1						1	1
Coryza	1			10	1		12	2
Croup, spasmodic	1						1	1
Debility, post-operative	1			1			2	2
Dengue fever	1			3			4	1
Dhobie itch	1						1	
Dysentery:								
Amœbic—								
Acute	4	1		22	2	1	30	1
Chronic	1						1	1
Catarrhal, acute	3	1		2	2		8	2
Empyemia				1			1	1
Enteritis, acute, catarrhal	9			13	1		23	4
Gastritis:								
Acute	3	1		12	3		19	3
Chronic	2						2	1
Gastro-enteritis, acute	2			3			5	1
Goitre, ex-ophthalmic, incipient	1						1	
Herpes facialis				1			1	
Lumbago				1			1	
Malaria:								
Estivo-autumnal	3			20	3		26	4
Pernicious				2			2	
Tertian	4			13	1		18	2
Mercurialism	1						1	
Myalgia				1			1	1
Nephritis:								
Acute, parenchymatous (uremic)				1			1	1
Chronic, fatty heart			1				1	
Neuralgia:								
Intercostal				1			1	
Supraorbital					1		1	
Neurasthenia	5						5	3
Neurosis, cardiac, alcoholic	1						1	
Orchitis, acute				1			1	
Parasites, intestinal:								
Ankylostoma				5			5	
Ascariasis				1	1		2	
Tinea solium				2			2	
Parotitis, acute				4			4	
Pharyngitis, chronic	1						1	
Phlebitis, femoral				1			1	
Pleurisy, acute, fibrinous				3			3	
Pneumonia, acute, lobar			1	10			11	1
Prostration, nervous	1						1	
Pyelonephritis, acute				1			1	1
Rheumatism:								
Articular—								
Acute				7			7	2
Chronic				1			1	
Muscular, acute				9			9	
Spondylilitis, acute				1			1	
Stomatitis, ulcerative				1			1	
Syphilis, secondary				1			1	1
Tabes dorsalis					1		1	
Tonsilitis, acute, follicular	2						2	1
Tuberculosis, pulmonary, acute	2	1		11			14	2
Typhoid fever					1		1	
Ulcer, gastric			1				1	
Under observation	2			3			5	3
Urticaria				1			1	
Vaccinia	2						2	
Varioloid				10			10	
Total medical cases	70	4	3	203	18	1	299	52

Baguio Hospital Division—Continued.

SURGICAL CASES.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Abrasion, hip and leg			1			1	
Abscess:							
Femoral glands			1			1	
Ischio-rectal		2				2	1
Liver (amœbic)		1				1	
Rectal	1					1	1
Thigh and leg	1					1	
Adenitis:							
Cervical, tuberculous			1			1	
Femoral, acute			1			1	1
Inguinal—							
Acute			1			1	
Acute, suppurative, gonnorrheal			1	1		2	
Adenoids, hypertrophy of (adenoidectomy)	3					3	2
Amputation, finger		1				1	
Anus, fissure of		1				1	
Appendicitis:							
Catarrhal, acute	2				1	3	
Suppurrative, acute				1		1	
Arthritis:							
Hip, traumatic	1					1	
Infectious, acute, ankle			1			1	
Blepharitis and conjunctivitis, acute	1					1	
Burns:							
Eyes, face, arm (powder)			1			1	
Face			1			1	
Legs and feet			1			1	
Neck and shoulder	1					1	1
Thigh and leg			1			1	
Carbuncle		1				1	1
Circumcision	3					3	
Concussion of brain			1			1	
Dacrocystitis, suppurative, acute			1			1	
Dislocation of shoulder			1			1	
Epididymitis, gonorrheal, acute			2			2	
Fistula in ano			1			1	
Fractures:							
Clavicle			1			1	
Colles'	1					1	1
Femur			1		1	2	
Femur (impacted, old)	1					1	1
Femur, humerus (compound), clavicle			1			1	
Fibula			1			1	
Finger (compound)	1					1	
Potts'		1				1	
Rib					1	1	
Skull				1		1	
Furuncle, face	1					1	
Hemorrhage (following extraction of tooth)			1			1	
Hemorrhoids:							
External	1			1		2	1
Internal	1	1	2			4	
Infections:							
Finger	1		1			2	
Foot			4			4	
Hand			2			2	
Toe			1			1	
Periostitis, acute, costal			1			1	
Peritonitis, acute, suppurative				1		1	1
Sprain:							
Ankle	1		1	1		3	
Back			1			1	
Metatarsus			1			1	
Wrist			1			1	
Strain, ligaments, lumbar vertebræ			1			1	
Tonsils, hypertrophy of (tonsilectomy)	1					1	
Tonsils and adenoids, hypertrophy of (tonsilectomy and adenoidectomy)	1					1	
Varicocele and circumcision	1					1	
Varicose veins, leg			1			1	
Wounds:							
Contused—							
Back and hip			1			1	
Back	1					1	
Chest and ilium			1			1	
Chest and knee			1			1	
Chest and shoulder			1			1	
Cornea			1			1	
Face			1			1	
Foot			1			1	
Heel			1			1	

Baguio Hospital Division—Continued.

SURGICAL CASES—Continued.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Wounds—Continued.							
Contused—Continued.							
Knee			1			1	
Neck (pulmonary edema)			1			1	
Sacrum and ilium				1		1	
Sacrum and ankle				1		1	
Shoulder and hip			1			1	
Thigh and back				1		1	
Incised—							
Forehead			1			1	
Lip			1			1	
Scalp			2	1		3	
Infected—							
Arm (gunshot)			1			1	
Finger	1					1	
Foot	1		3			4	
Forehead			1			1	
Leg	1		2			3	
Thigh			1			1	
Lacerated—							
Ankle			1			1	
Finger and thumb (amputation of finger)			1			1	
Fingers and thumbs			1			1	
Foot			4			4	
Hand and wrist (amputation through forearm)			1			1	
Leg			1			1	
Scalp			2			2	
Punctured, foot			1			1	
Stab—							
Arm and chest	1					1	1
Chest	1					1	
Total surgical cases	30	8	74	10	3	125	11

OBSTETRICAL AND GYNECOLOGICAL CASES.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Total.
Abortion, accidental			2		2
Bartholinitis, suppurative, acute			1		1
Cyst, ovarian:					
Dermoid			1		1
Multilocular			1		1
Eclampsias (induction of labor)			1		1
Ectopic pregnancy			1		1
Menorrhagia			1		1
Parturition	5	2	1		8
Parturition (acute nephritis of pregnancy)			1		1
Pregnancy	2				2
Pregnancy, vomiting of	1				1
Prolapsus uteri			1		1
Relaxed vaginal endometritis, chronic (perineorraphy and curettage)			1		1
Vaginitis, gonorrheal:					
Acute			9	1	10
Chronic			2	9	11
Total cases	8	2	23	10	43

OUTDOOR DEPARTMENT.

Diagnosis.	Number of cases.	Diagnosis.	Number of cases.
Aberration, mental, traumatic	2	Abrasions—Continued.	
Abrasions:		Heel	2
Back	1	Hip	1
Buttocks	1	Knee	1
Chest	1	Leg	7
Face	2	Neck	2
Foot	4	Thigh	1
Hand	3	Toe	1

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.
Abscesses:	
Alveolar	2
Arm	3
Axillary	5
Buttock	3
Foot	1
Hand	2
Ischio-rectal	5
Leg	1
Lip	1
Meibomian gland	1
Neck	4
Perineal	3
Psoas	1
Scrotum	3
Submaxillary	1
Supra-orbital	1
Wrist	1
Acne vulgaris	15
Adenitis:	
Axillary	1
Cervical	3
Tuberculous	3
Tuberculous, femoral	2
Inguinal—	
Simple	7
Suppurative, acute gonorrheal	1
Sublingual	2
Submaxillary	1
Alcoholism, acute	6
Alopecia	2
Anemia	18
Anorexia	2
Anus, fissure of	2
Appendicitis, chronic	1
Arteriosclerosis	2
Asthenia	11
Asthma	20
Beriberi	2
Bite (insect)	1
Blepharitis—	
Acute	1
Chronic	2
Bronchitis:	
Acute	323
Chronic	2
Burns:	
Ankle and face	1
Arm	1
Back	1
Face	1
Fingers	2
Hand	6
Leg	6
Carbuncle	1
Cephalagia	24
Chancroid	6
Circumcision	4
Clavus	3
Conjuctivitis:	
Acute	59
Chronic	6
Follicular, acute	3
Constipation:	
Acute	338
Chronic	65
Contusions:	
Ankle	2
Arm	3
Backs	6
Chest	2
Foot	3
Hand	3
Knee	3
Leg	3
Lumbar region	1
Neck	1
Shoulder	1
Spine	1
Toe	1
Coryza	151
Cyst, sebaceous	5
Cystitis:	
Acute	20
Chronic	1
Dacrocystitis, acute, suppurative	1
Dengue fever	5
Dental caries	23
Dentition, difficult	1
Dermatitis, undetermined	59
Dhobie itch	21
Diarrhea, acute	281
Diarrhea:	
Chronic	1
Tuberculous	1
Dislocation, costal cartilage	1
Drug habitue	1
Dysentery, amebic	22
Dysmenorrhea	6
Eczema:	
Acute	22
Chronic	16
Entero-colitis, acute	1
Enuresis	3
Epididymitis, gonorrheal	4
Epilepsy	1
Erysipelas	1
Ethmoiditis, acute	2
Fistula in ano	1
Foreign body in eye (removed)	7
Fractures:	
Clavicle	2
Finger	2
Metacarpal bone	2
Nose	1
Rib	1
Furunculosis	42
Gastric hyperacidity	7
Gastric neurosis	7
Gastritis:	
Acute	132
Chronic	27
Gastro-enteritis:	
Acute	9
Chronic	1
Goitre, ex-ophthalmic, incipient	5
Hematoma	1
Hemorrhoids:	
External	9
Internal	4
Hernia, inguinal	1
Herpes:	
Cervical	2
Facialis	1
Labialis	2
Zoster	4
Hordeolum	10
Impetigo contagiosa	2
Impacted cerumen	9
Impotence	2
Indigestion, intestinal:	
Acute	9
Chronic	2
Infection:	
Ear	1
Finger	14
Foot	10
Hand	11
Heel	2
Nose	2
Thumb	11
Toe	10
Insomnia	11
Intertrigo	3
Laryngitis:	
Acute	35
Chronic	3
Tuberculous	1
Liver, congestion of	1
Lumbago	35

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.
Malaria	144
Malnutrition	1
Masturbation	1
Menorrhagia	1
Metatarsalgia	1
Milaria	1
Myalgia	70
Myocarditis	2
Nephritis	2
Neuralgia:	
Intercostal	7
Supraorbital	1
Trifacial	5
Neurasthenia	17
Neuritis, acute	1
Neurosis, cardiac, alcoholic	7
Nostalgia	1
Nyctalopia	1
Occlusion of Wharton's duct	2
Orchitis, acute	1
Osteomyelitis:	
Arm	1
Jaw	1
Otitis media:	
Acute, suppurative	7
Chronic, suppurative	1
Parasites, intestinal:	
Ankylostomiasis	12
Ascariasis	70
Tenia solium	2
Paronychia	1
Parotitis, acute	9
Parturition	1
Pectoralgia	3
Pediculosis:	
Capitis	1
Pubis	8
Pemphigus contagiosa	3
Periostitis, acute	3
Pertussis	2
Pes planus	1
Pharyngitis:	
Acute	32
Chronic	2
Phlebitis	1
Pleurisy, acute	14
Potts' disease	1
Pregnancy	5
Pterygium	2
Pyorhea alveolaris	1
Retina, detachment of	1
Rheumatism:	
Articular—	
Acute	33
Chronic	4
Muscular, acute	57
Rhinitis:	
Acute	14
Atrophic	2
Hypertrophic	3
Scabies	79
Sciatica, rheumatic	1
Sinus, appendiceal	1
Sprains:	
Ankle	8
Back	3
Knee	1
Tendo Achilles	1
Thigh	1
Thumb	2
Toe	1
Wrist	8
Singultis	1
Stomatitis:	
Mercurial	4
Parasitic, acute	24
Strain; tendo Achilles	1
Synovitis, acute, knee	1
Syphilis:	
Primary	2
Syphilis—Continued.	
Secondary	19
Tertiary	2
Teeth extracted (cases)	108
Thrush	4
Tinea circinata	9
Tinea sycosis	1
Tinea imbricata	7
Tonsilitis:	
Acute	2
Chronic	2
Tuberculosis:	
Kidney	1
Pulmonary	68
Ulcer:	
Cornea	4
Gastric	2
Urethritis:	
Acute—	
Anterior, gonorrheal	20
Posterior, gonorrheal	4
Chronic, posterior, gonorrheal	14
Urticaria	3
Vaginitis, chronic, gonorrheal	1
Varicose veins, leg	3
Verucca, removal of	4
Vertigo	4
Wounds:	
Contused—	
Arm	2
Back	2
Chest	1
Finger	2
Foot	4
Hand	2
Hip	2
Knee	1
Leg	1
Scalp	1
Shoulder	1
Incised—	
Arm	3
Back	1
Face	4
Finger	10
Foot	15
Forehead	7
Hand	10
Heel	1
Knee	2
Leg	2
Lip	4
Nose	1
Scalp	5
Shoulder	2
Thumb	2
Toe	8
Tongue	1
Infected—	
Abdomen	1
Ankle	2
Arm	6
Buttocks	1
Chin	1
Face	2
Finger	18
Foot	29
Forehead	2
Hand	18
Heel	2
Knee	1
Leg	16
Lumbar region	1
Neck	1
Thumb	1
Toe	14
Lacerated—	
Ankle	1
Ear	1

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.	Diagnosis.	Number of cases.
Wounds—Continued.		Wounds—Continued.	
Lacerated—Continued.		Punctured—	
Finger	24	Cheek	1
Foot	17	Cornea	1
Hand	8	Finger	1
Knee	1	Foot	17
Leg	11	Hand	3
Lip	1	Head	1
Neck	1	Heel	1
Scalp	6	Leg	2
Scrotum	1	Thumb	1
Thigh	1		
Thumb	1	Total number of outdoor department cases	3,460
Toe	8		

Specimens examined at hospital laboratory, fiscal year 1910.

Examination.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.
Blood	18	.....	.....	67	12	.....	97
Fæces	108	.....	.....	392	19	1	520
Pus	6	1	.....	46	204	.....	257
Sputum	13	1	.....	29	1	.....	44
Stomach contents	1	.....	.....	.....	.....	.....	1
Urine	48	1	1	37	5	1	93
Total	194	3	1	571	241	2	1,012

Results of examination of fæces of natives at the hospital laboratory.

Parasites found.	Igorots.	Filipinos.	Total.
Amœbæ	3	20	23
Ankylostoma duodenale	37	21	58
Ascaris, lumbricoides	42	33	75
Flagellates	1	3	4
Oxyuris vermicularis	4	0	4
Tenia saginata	3	2	5
Tenia solium	1	1	2
Tricocephalus hominis	33	34	67
Number of cases in which two or more parasites were found	31	28	59
Number of negative cases	53	66	119
Total number of cases examined	138	140	278

Average cost of subsistence per person, per day, including patients, employees, etc., of the Baguio Hospital division.

1909—July	₱0.683
August	.71
September	.70
October	.515
November	.544
December	.60
1910—January	.677
February	.541
March	.647
April	.772
May	.652
June	.62
Average cost per person for fiscal year 1910	0.638

Bilibid Prison report of sick.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Abscess	6	116			112	10
Abscess, ischio-rectal	1	4	1		4	
Acne vulgaris		1			1	
Adenitis	2	5			6	1
Amebiasis		13			12	1
Anemia	2	12			13	1
Ankylostomiasis	1	440			435	6
Aortic stenosis		1	1			
Arthritis, purulent	2	4			5	1
Asthma	3	12			13	2
Auto-intoxication		5			5	
Balanitis		2			2	
Beriberi		25			21	4
Blepharitis marginalis		1			1	
Bronchitis:						
Acute	15	116			126	5
Chronic	21	174			187	8
Bubo		3			3	
Bunions		1			1	
Burns		4			4	
Callosity		6			6	
Carbuncle	1	7			7	1
Carcinoma:						
Of liver	1					1
Of rectum		1				1
Cataract	1	1			1	1
Cellulitis		1			1	
Cerebral hemorrhage		1			1	
Chalazion		1			1	
Chancroids		15			14	1
Cholecystitis		1			1	
Cicatricial contracture	1				1	
Circumcision		3			3	
Cirrhosis of liver	1	1			2	
Colic, intestinal		10			10	
Colitis	3	35	1		37	
Condyloma		1			1	
Congestion, pulmonary		17			17	
Conjunctivitis	4	31			35	
Constipation	4	141			141	4
Contusions		11			11	
Cyst, dermoid		1				1
Cystitis, chronic		1			1	
Dengue		4			4	
Dermatitis		1			1	
Diarrhea	7	43			49	1
Dilatation of heart, acute		1	1			
Dislocation of thigh		2			2	
Dhobie itch		1			1	
Dysentery:						
Acute	1	14			15	
Amebic	1	26	1		26	
Chronic	1	3	1		3	
Dyspepsia	5	67			72	
Eczemata		4			4	
Edemata		6			6	
Elephantiasis		2			1	1
Endocarditis		1			1	
Enteritis		1			1	
Enteritis, tuberculous		2	1		1	
Entero-colitis		5	2		3	
Epilepsy		4			4	
Exostosis of humerus		1			1	
Fibromata		3			3	
Fistula:						
Anal	10	85			92	3
Tubercular		1			1	
Urethral		1			1	
Fracture:						
Of femur		1				1
Of fibula		1			1	
Of toe		1			1	
Pott's		1			1	
Furunculosis		20			20	
Gangrene of lungs		1	1			
Gastralgia		4			3	1
Gastritis, acute		1			1	

Bilibid Prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Gastro-enteritis, acute		1	1			
Glaucoma		1			1	
Glossitis, chronic		1			1	
Gonorrhea		11			11	
General debility		1			1	
Granuloma, fungoides		1			1	
Hallux valgus		1			1	
Helminthiasis		829			816	13
Hematoma		1				1
Hemiplegia		1				1
Hemoptysis	1	5			6	
Hemorrhoids	4	49			48	5
Hepatic:						
Cirrhosis		1			1	
Colic		6			5	1
Hepatitis		1			1	
Hernia:						
Inguinal	5	25			27	3
Strangulated		1			1	
Herpes simplex		3			2	1
Hordeolum		2			2	
Hydrocele		27			25	2
Hysteria		7			6	1
Indigestion		3			2	1
Infection:						
Of foot		2			2	
Of hand		1			1	
Influenza		1			1	
Ingrowing toe nail		2			2	
Insanity		8			7	1
Iritis		1			1	
Jaundice	1	1			2	
Keratitis		1			1	
Laryngitis, acute	1	10			11	
Leprosy		3			3	
Lipomata		5			4	1
Locomotor ataxia		1			1	
Lumbago		3			3	
Lymphadenitis, chronic		1				1
Malaise		2			2	
Malarial fever	5	87			89	3
Malta fever		1			1	
Mastitis		1			1	
Melancholia		1			1	
Meniere's disease		1			1	
Meningitis, purulent		1	1			
Migraine		7			7	
Mitral:						
Insufficiency	2	7			9	
Regurgitation		2			1	1
Morphinism	2	190			176	16
Myocarditis		3			2	1
Myositis		2			2	
Necrosis		1			1	
Nephritic colic		1			1	
Nephritis:						
Acute		2			2	
Chronic	1	2			3	
Neuralgia		3			3	
Neurasthenia		3			3	
Opiumism	2	180			165	17
Opthalmia		3			3	
Orchitis	1	13			14	
Orchitis, tubercular		3			3	
Osteomyelitis	1	1			2	
Osteoperiostitis		1			1	
Otitis		3			3	
Palpebral cellulitis		2			2	
Panophthalmia		2			2	
Paragonomiasis		1				1
Paraplegia	4	10			12	2
Paralysis		2			2	
Parturition		5			5	
Pemphigus		2			2	
Pericarditis:						
Chronic		3	2		1	
Tuberculous		1	1			
Parotitis		3			3	
Peritonitis	2	1			3	
Paronychia		1			1	
Pharyngitis, acute		2			2	

Bilibid Prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Phimosis		1			1	
Phthisis bulbi		2			2	
Pleurisy		8			5	3
Pleurodynia		1			1	
Pneumonia:						
Acute		10	4		6	
Broncho	1	4	2		2	1
Lobar		12	1		9	2
Proctitis		8			8	
Prolapse, rectal		3			3	
Pterygium		1			1	
Pulmonary congestion	1	3			4	
Pyorrhea, alveolar		1			1	
Rectocele		1			1	
Rheumatism	4	20			22	2
Rhinitis, chronic		2			2	
Scalds		1			1	
Sciatica		2			2	
Sebaceous cyst		3			3	
Senility	3	6			7	2
Spastic paraplegia	2	1			3	
Splenomegalia		1			1	
Sprain		5			5	
Staphyloma	1	1			1	1
Stricture, urethral		1			1	
Swelling of foot		1			1	
Syphilis	2	24			21	5
Syphilitic gummata of liver		1	1			
Tachycardia		4			4	
Tinea imbricata		3			3	
Thyroidectomy, carcinoma of thyroid gland		1			1	
Trachoma	1	4			5	
Troubles of pregnancy		4			3	1
Tuberculosis:						
General		8	8			
Miliary		7	7			
Of peritoneum	1				1	
Pulmonary	124	228	88		117	152
Tumor		1			1	
Tumor, fibroid		1			1	
Typhoid fever		3	2		1	
Ulcers	7	66			71	2
Urethral stricture		2			2	
Urine, retention of		1			1	
Urticaria		4			4	
Vaccinia		1			1	
Varicella		24			22	2
Varioloid		86			86	
Verrucosa cutis		1			1	
Wounds	1	104			105	
Yaws	1	1			1	1
Total	275	3,730	123		3,579	308

Mortality of prisoners, excluding Iwahig.

	Inside.	Outside.
Average number of prisoners	2,696	1,819
Number of deaths	117	6
Annual death rate per thousand	43.39	3.29
Population inside and outside		4,515
Number of deaths		123
Annual death rate per thousand		27.24

Iwahig penal colony, sick report.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Abscess		12		12	
Abscess, acute, phlegmonous		2		2	
Abscess of the ear		2		2	
Adenitis:					
Axillary		1			1
Cervical		2		2	
Inguinal		6		6	
Anemia		3		3	
Angiocolitis		1		1	
Ankylostoma duodenalis		2		2	
Anthrax		5		3	2
Arthritis		1		1	
Arthritis, traumatic		1		1	
Biliary lithiasis		1		1	
Bites of poisonous animals		2		2	
Bronchitis:					
Acute		3		3	
Chronic		1			1
Chronic muscular atrophy		1			1
Conjunctivitis	1	6		7	
Conjunctivitis, granular		2		2	
Constipation		1		1	
Contusions		38		38	
Corneal ulcers		2		2	
Dermatitis		[a]1			
Diarrhea		13		13	
Diarrhea and enteritis		7		7	
Disease of the ear		1		1	
Dysentery:					
Acute		2		2	
Amebic		7	1	5	1
Eczema		1		1	
Enteritis		8		8	
Entero-colitis		1	1		
Epilepsy	1	1		2	
Erysipelas		2		1	1
Fistula:					
Anal		3		3	
Salivary, submaxillary gland		1		1	
Fracture:					
Of clavicle		1		1	
Of ulna		1		1	
Furuncle		3		2	1
Gastritis, acute		15		14	1
Gastro-enteritis		8		8	
Gingivitis		2		2	
Hemorrhoids		3		3	
Hepatitis, acute		1		1	
Herpes	1	7		7	1
Hypertrophic cirrhosis of liver		1			1
Hydrocele	1			1	
Keratitis		2		2	
Keratosis, palms and soles	1	2		3	
Laryngitis:					
Acute		3		2	1
Tuberculous		1		1	
Laryngo-bronchitis		2		2	
Laryngo-pharyngitis		1		1	
Lithiasis, intestinal		1		1	
Malaria	4	773		767	10
Mental alienation		1		1	
Myelitis		1		1	
Nephritis, acute		1		1	
Occlusion intestinal		1		1	
Orchitis		4		3	1
Organic disease of the heart		2		2	
Oxyuris vermicularis		3		3	
Palpitation of heart		1		1	
Papilloma		1		1	
Paragonomiasis		2		1	1
Paralysis, general		1		1	
Parotiditis		1		1	
Pericarditis		1		1	
Periostitis, alveo-dental		1		1	
Pharyngitis		1		1	
Pleurisy		4		4	
Pleuro-pulmonary congestion		2		2	
Pneumonia		1		1	

[a] Diagnosed leprosy and transferred to Culion.

Iwahig penal colony, sick report—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining
Pulmonary congestion		1		1	
Rheumatism		47		46	1
Stomatitis, acute		1		1	
Synovitis		2		2	
Syphilis		2		1	1
Tenia solium		2		2	
Trichocephalus dispar		3		3	
Tuberculosis:					
Intestinal	1			1	
Pulmonary	4	42	13	18	15
Ulcer:					
Of the skin		21		18	3
Of the mouth		1		1	
Uncinariasis		6		6	
Under observation		[a]108		102	
Urticaria		1		1	
Varices		1		1	
Wounds from various weapons		82		76	6
Total	14	1,814	15	1,261	50

[a] One diagnosed malaria.

Free treatment of poor at Mariveles (medicines furnished by the Bureau of Health).

Diseases.	Number.	Diseases.	Number.
Abortion	2	Inflammation of breast	1
Abscess	5	Inflammation of colon	1
Abscess, liver	4	Injury of chest	1
Amblyopia	1	Itch, dhobie	5
Ascaris lumbricoides	118	Lumbago	2
Asthma	5	Malaria	118
Beriberi	3	Nephritis	1
Boils	2	Neuralgia	4
Bronchitis, acute	35	Ophthalmia neonatorum	2
Burns	1	Otitis	1
Carcinoma	1	Paralysis	1
Caries, bone	1	Pertussis	1
Cellulitis	14	Pharyngitis	1
Conjunctivitis	5	Pneumonia	2
Constipation	4	Rheumatism	3
Cyst, hand	1	Senility	1
Diarrhea	6	Stricture, urethral	1
Dengue	4	Sprain	1
Dysmenorrhea	1	Tuberculosis: Glands	4
Dysentery	1	Intestinal	1
Dysentery, amebic	7	Lungs	16
Eczemata	4	Toothache	1
Enteralgia	4	Tooth extraction	9
Enterocolitis	2	Ulcer	11
Foreign body in eye	2	Uncinariasis	6
Gingivitis	1	Vaccination, inflamed	2
Hare lip	1	Wounds	18
Hemorrhage	1		
Hernia	2	Total	456
Impetigo contagiosa	3		

MISCELLANEOUS.

Cases	456
Visits	851
Microscopical examinations.	
Blood	118
Feces	57
Sputum	32

Bilibid Prison, report of deaths.

Diseases.	Presidio.			Carcel.				Total.	Condition.			Cemetery Norte.
	Filipinos.				Filipinos.							
	Male.	Female.	Chinese, male.	Americans, male.	Male.	Female.	Chinese, male.		Married.	Single.	Widowed.	
Typhoid fever (abdominal typhus)	2							2		2		2
Dysentery	2							2	2			2
Tuberculosis of the lungs	78		1		7	2	1	89	46	34	9	89
Tuberculosis of the meninges							1	1		1		1
Abdominal tuberculosis	1							1	1			1
Tuberculosis of other organs	1							1		1		1
General tuberculosis	9							9	2	7		9
Syphilis	1							1	1			1
Pericarditis	1							1	1			1
Organic diseases of the heart	3							3	3			3
Broncho-pneumonia	1				1	1		3	2	1		3
Pneumonia	3			1				4	2	2		4
Gangrene of the lungs						1		1			1	1
Diarrhea and enteritis (2 years and over)	3					1		4	3	1		4
Other diseases of the intestines	1							1		1		1
Suicide by hanging or strangulation	1							1		1		1
Fractures	1							1		1		1
Other external violence					19			19	13	2	4	19
Total	108		1	1	27	5	2	144	76	54	14	144

Died in Bilibid hospital, 123; legally executed, 19; suicides, 1; died in San Lazaro Hospital, 1.

Report of San Lazaro Hospitals, insane and leper departments.

INSANE DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.	Others.	Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Male.	
In hospital at last report	2		2		113	16	2	1	136
Admitted	9	1	4	1	55	13	1	4	88
Discharged	7		4	1	17	2		1	32
Transferred									
Escaped						1			1
Died	2		1		13	2		1	19
Remaining	2	1	1		138	24	3	3	172

LEPER DEPARTMENT.

Status.	Americans.	Filipinos.		Chinese.	Others.	Total.
	Male.	Male.	Female.	Male.	Male.	
In hospital at last report		97	58	5	1	156
Admitted	1	224	104	16	1	346
Discharged		14	11	15	2	42
Discharged, not leprosy		14	10	1		25
Transferred		146	73	5		224
Escaped		8				8
Died		23	14			37
Remaining	1	116	49			166

Chinese hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Male.	Female.	
In hospital at last report	21		21
Received	208		208
Discharged	122		122
Transferred			
Died	88		88
Remaining in hospital	19		19

Report of prescriptions filled at the municipal dispensary.

Health districts.	Americans.				Foreigners adults, male.	Filipinos.				Chinese.		Total.
	Adults.		Children.			Adults.		Children.		Adults, male.	Children, male.	
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.			
No. 1, Intramuros	1,796	1,078	1	6	104	4,676	3,712	1,157	1,020	17	1	13,568
No. 2, Meisic	27				2	1,007	796	396	302	7		2,537
No. 4, Sampaloc	2					1,978	1,229	1,197	649			5,055
No. 5, Tondo	1				1	1,075	891	318	284			2,570
No. 6, Paco	61	4				481	318	349	329			1,542
Total	1,887	1,082	1	6	107	9,217	6,946	3,417	2,584	24	1	25,272

Number of prescriptions filled during the fiscal year 1909–10 at the Philippine Medical School free clinic.

Date.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
1	64		85	92	47	95		107	68	113		123	794
2	66	111	65	86		51		103	101	56		103	742
3	84	67	60		110	57	174	69	79		119	134	953
4		77	73	101	54	100	68	109	89	89	122	82	964
5		52		76	93		123	89	60	97	103		693
6	94	80	83	89	85	113	74			104	106	160	988
7	62	58	68	58		82	85	154	131	87	111	96	992
8	80		46	84	99	58	68	69	62	116		108	785
9	72	109	39	71	56	61		88	91	72	135	134	928
10	76	78	83		110	89	134	71	86		76	128	926
11		81	67	102	62	79	77	78	115	123	97	106	987
12	85	60		56	138		107	74	56	107	86		769
13	43		104	80	82	106	87			142	125	153	922
14	65	94	53	62		82	124	144	164	96	83	94	1,061
15	82		87	110	90	87	86	62	98	118		102	922
16	68	109	48	69	74	68		107	121	56	49	84	853
17	79	84	41		117	92	121	82	81		84	124	905
18		67	89	77	79	68	107	90	97	129	119	74	946
19	83	47		74	107		102	72	76	82	100		743
20	75	68	47	76	77	108	66			121	114	164	916
21	102	86	63	63		67	99	158	145	80	82	127	1,072
22	81		85	104	105	91	70		56	108		112	812
23	90	127	62	68	100	54		112	132	85	158	127	1,115
24	102	76	76				119	100			92	92	657
25		87	66	99			104	111		59	82	95	703
26	82	55		68	150		114	68		107	55		699
27	40	77	100	113	97	147	70			136	74	153	1,007
28	39	83	58	70		103	105	122	134	86	75	97	972
29	85		82	88	124	92	107		106	142		124	900
30	40	126	80	79	82				108	94		100	709
31	71	83		15			125		73		137		504
Total	1,860	2,087	1,760	2,130	2,138	1,950	2,511	2,239	2,329	2,605	2,384	2,996	26,939

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans, adults.	Foreigners.		Filipinos.			
		Adults.		Adults.		Children.	
	Male.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	7	62	5	1,255	1,244	446	405
No. 2, Meisic, Drs. F. Herrera and C. Reyes	21	1		416	246	165	157
No. 4, Sampaloc, Dr. F. Castañeda				548	945	671	598
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel			1	625	439	271	229
No. 6, Paco, Dr. J. B. Cabarrus				339	298	165	172
Dr. Tee Han Kee	2			43	26	9	5
Total	30	63	6	3,226	3,198	1,727	1,561

Health districts and physicians.	Chinese.			Total.	Cured.		Deaths.		Number of visits.
	Adults.	Children.							
	Male.	Male.	Female.		Male.	Female.	Male.	Female.	
No. 1, Intramuros, Dr. V. Cavanna	3			3,427	857	809	32	26	9,298
No. 2, Meisic, Drs. F. Herrera and C. Reyes	48			1,054	520	298	14	14	4,451
No. 4, Sampaloc, Dr. F. Castañeda				2,757	200	246	102	79	3,468
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	16			1,581	381	260	31	26	3,568
No. 6, Paco, Dr. J. B. Cabarrus	1			975	261	241	28	19	2,250
Dr. Tee Han Kee	352	8	1	446	267	21	9		2,007
Total	420	8	1	10,240	2,486	1,875	216	164	25,047

San Lazaro Morgue report.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	0	Dropped:	
Received:		Buried by Bureau of Prisons	1
Beriberi	77	Buried by city	402
Cholera	300	Buried by family	242
Cholera, suspected	2	Cremated	23
Diphtheria	4	Remaining after the year	1
Glanders	2		
Insane	3	Total	669
Leprosy	36		
Leprosy, suspected	1		
Stillborn	3		
Tetanus	3		
Typhoid fever	2		
Violence	1		
Other diseases	235		
Total	669		

Number of autopsies held, 463.

Report of Malecon Morgue.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	13	Transferred to Fort McKinley	1
Received	480	Transferred to provinces	3
		Transferred to San Lazaro Morgue	5
Total	493	Remaining after the year	21
Buried by city	403	Total	493
Buried by family	60		

Disposition of dead bodies.

Disposition.	Number.	Disposition.	Number.
Buried:		Buried continued:	
Norte cemetery	5,543	Santa Ana cemetery	185
Paco cemetery	281	Chinese cemetery	292
Santa Cruz cemetery	110	San Pedro Macati (English)	6
Binondo cemetery	310	Otherwise disposed of:	
Balicbalic cemetery	1,167	Embalmed for shipment	11
Maytubig cemetery:		Transferred to provinces	64
San Marcelino	167	Cremated	23
Ermita	228	Preserved in alcohol	2
San Fernando de Dilao	46	Remaining in Santo Tomas University	4
Malate cemetery	388	Remaining in Malecon Morgue	21
Pandacan cemetery, Roman Catholic	73		
Pandacan cemetery, Filipino Church	204	Total	[a]9,125

[a] Of this total 13 are from the Malecon Morgue remaining from last year; 21 dead bodies brought from the provinces; 1 remains unearthed, and 368 fœtuses.

Disinterments.

Cemeteries.	Number.	Cemeteries.	Number.
Paco	108	Balicbalic	29
Norte	6	Chinese	61
Loma	6	San Fernando de Dilao	1
Tondo	1	Quiapo church	1
Santa Cruz	33		
Binondo	21	Total	285
Malate	18		

General inspection of houses, premises, vaults, etc., with improvements ordered, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors.

1.	Inspections of houses by sanitary inspectors	34,477
2.	Reinspections of houses for verification of work ordered	6,494
3.	Inspections of houses by assistant sanitary inspectors and sanitary policemen	1,288,164
4.	Reinspections of houses by assistant sanitary inspectors and sanitary policemen	262,302
5.	Houses ordered cleaned (written)	71
6.	Houses ordered cleaned (verbal)	162,403
7.	Houses cleaned	161,088
8.	Houses ordered whitewashed and painted	322
9.	Houses whitewashed and painted	203
11.	Number of houses recommended, condemned, and removed	21
12.	Number of houses condemned and removed	0
13.	Number of localities where "squatters" are located	0
14.	Number of samples of water, foods, etc., sent to laboratory	2,726
15.	Number of reports for same	2,493
16.	Number of fire plugs opened or closed for sanitary purposes	0
17.	Number of hydrants recommended reopened	0
18.	Number of houses where garbage has not been removed for two days	590
19.	Number of persons reported sick to municipal physicians	11,591
20.	Cesspools and vaults ordered cleaned	146
21.	Cesspools cleaned	92
22.	Yards ordered cleaned	117,221
23.	Yards cleaned	117,221
24.	Yards ordered repaired (repaved, etc.)	17
25.	Yards repaired	5
26.	Number of cholera cases reported by sanitary inspectors	153
27.	Number of cholera cases found alive	271
28.	Number of cholera cases found dead	237
29.	Number of orders issued during the year	720
30.	Number of orders complied with during the year	500
31.	Number of orders awaiting action	55
32.	Number of orders pending in court	41
33.	Average number of food tiendas in the districts	3,500
34.	Number of persons convicted for violation of food prohibition orders	128
35.	Average number of regular inspectors on duty	33
36.	Average number of regular emergency inspectors on duty	35
37.	Number of leprosy cases sent to San Lazaro Hospital	174
38.	Number of plague cases reported	0
39.	Number of smallpox cases reported (varioloid included)	152

40. Average number of houses in which traps were set	499
41. Average number of houses in which bane was placed	0
42. Average number of traps set	640
43. Average number of plates with rat bane placed	0
44. Rats caught by rat catchers	11
45. Rats caught by traps	448
46. Rats caught by poison	45
47. Rats found dead	4
48. Average number of rat catchers employed	0
49. Number of persons vaccinated during the year	12,674

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Actinomycosis	1		Meningitis, tuberculous	1	3
Anthrax	1		Mosquito larvae	8	
Beriberi	92	57	Mosquitoes	7	
Cholera	299	2,926	Pemphigus (?)	1	
Chronic nephritis	1	4	Pulmonary tuberculosis	816	19
Colibaciliosis	1		Rinderpest	1	
Convulsions of children	7	52	Scarlet fever	1	
Diarrhea and enteritis	1		Simple meningitis	4	36
Diarrhea and enteritis, chronic	1		Smallpox	18	221
Diphtheria	19	108	Sub-acute enteritis	1	
Diphtheria amygdalitis	1	2	Surra (?)	2	
Dysentery	26	3	Suspected cholera	161	1,377
Dysentery, acute	3	2	Suspected diphtheria	3	14
Endocarditis, acute	1		Suspected leprosy	14	41
Enteritis	5	13	Suspected smallpox	3	9
Enteritis, acute	1	2	Suspected varioloid	1	4
Enteritis, chronic	11	28	Syphilis	1	
Entero-colitis, acute	1	3	Tetanus	8	13
Exhumations	278		Tuberculosis of the larynx	1	
Foot and mouth disease	12		Typhoid fever	38	155
Gastro-enteritis	3	16	Undetermined	4	10
Gastro-enteritis, acute	6	49	Unknown	756	10
Gastro-enteritis, chronic	2		Vaccinia	1	4
Glanders	2		Varicella (?)	54	441
Insanitary conditions	10,882	649	Varioloid	58	358
Intermittent fever	1		Vermin	1	
Leprosy	100	367	Whooping cough	3	
Measles	1	1			
Meningitis	8	88	Total	13,234	7,080

Report of cremations at Palomar Crematory.

Disposition.	Number.	Disposition.	Cart loads.
Animals cremated:		Refuse cremated:	
American horses	1	Condemned goods	363
American mules	2	Garbage	56
Bulls	5	Market refuse	671
Calves	1	Organic matter	595
Carabaos	12	Rubbish	494
Cats	1,155	Slaughtered in matadero	2
Cows	25	Slops	2,041
Deer	1	Trade refuse	1,697
Dogs	590		
Domestic birds	3	Total	5,919
Fowls	5,777		
Goats	67		
Hogs	1,070		
Monkeys	2		
Native ponies	27		
Rats	435		
Sheep	6		
Total	9,179		

Report of operations of the pail-conservancy system.

Where cleaned.	Pail collections.				Cleaned by odorless excavators.		
	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	4,919	1,970	2,469	825,966	2,186	3,107	1,553,500
Public buildings	135	52	308	74,291	124	1,286	643,000
Midden sheds	148	124	1,770	619,066			
Military buildings	80	5	26	9,843	6	88	28,000
Total	5,282	2,161	4,573	1,529,166	2,316	4,481	2,224,500

Report of action taken on application for licenses.

Kind of license applied for.	Approved.	Disapproved.	Total acted upon.	Kind of license applied for.	Approved.	Disapproved.	Total acted upon.
Liquor:				Three additional vehicles	1		1
First-class bars	77	1	78	Ferry boats	3		3
Second-class bars	74	1	75	Employment agencies	9		9
First-class bars and restaurants	40	2	42	Dyeing	16	1	17
Second-class bars and restaurants	13		13	Laundries	80	7	87
Groceries	88		88	Ice cream	12	4	16
Druggists	11		11	Ice water	1		1
Theaters	5		5	Distilleries	16		16
Wholesale	50		50	Junk shops	44	2	46
Hotels	19		19	Shipping office	2		2
Restaurants	801	188	989	Shooting gallery	7		7
Lodging houses	7		7	Second-hand furniture	6		6
Boarding houses	35	11	46	Foundry	1		1
Clubs	32		32	Dairies	4	1	5
Barber shops	354	23	357	To conduct a dairy, also to sell fresh milk	2		2
Billiards and pool tables	108	22	130	Grocery stores	6		6
Bowling alley	1		1	Aërated water	1		1
Dance halls	28	2	30	Peanut roaster	1		1
Palomar Park amusement	1	1	2	Sauce		1	1
Native wines	2,631	112	2,743	Pawnbrokers	3		3
Cooked foods, fruits, vegetables, soft drinks, and bakery products	2,930	237	3,167	Bill posting and street advertising	5		5
Bakeries	8		8	Auctioneers	8		8
Livery stables	102	11	113	Pawnshops	1		1
Race track	1		1	Merry-go-rounds	7		7
Manufactures	216	36	252	Cinematographs	12		12
Slot machines	8		8	Undertakers	8		8
Embalmers	3		3	Breweries	1		1
Tattooers	14		14	Native pastries and gelatine	4	3	7
Fresh milk	2		2	Theaters	1	1	2
				Total	7,871	667	8,538

Culion leper colony division.

Status.	Europeans, male.	Filipinos.		Chinese, male.	Total.
		Male.	Female.		
Remaining July 1, 1909	2	1,082	654	3	1,741
Admitted	1	533	250	1	785
Born		8	8		16
Discharged				1	1
Escaped		22			22
Died		584	252	2	838
Remaining	3	1,017	660	1	1,681

Report of lepers living in the Philippine Islands.

	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Culion leper colony	[a]	1,021	660	198	107	463	301	300	168	60	84	1,681
San Lazaro Hospital	[b]	117	49	12	3	49	17	58	20	3	9	166
Moro Province	Filipinos.	143	77	3	3	86	44	45	18	9	12	220
Estimated number not yet transferred to Culion												205
Total		1,281	786	213	113	598	362	398	206	72	105	2,272

[a] Europeans, 3; Filipinos, 1,677; Chinese, 1. Total, 1,681.
[b] Americans, 1; Filipinos, 165. Total, 166.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipinos.	28	18			22	8	6	8		7	46
Agusan	do	3	2			2	1	1	1			5
Albay	do	48	50		1	29	29	15	13	4	7	98
Ambos Camarines	do	65	52	2	2	45	31	13	9	5	10	117
Antique	do	54	36	1		35	17	17	13	1	6	99
Bataan	do	22	13			10	7	8		4	6	35
Batanes	do	12	12			11	11	1			1	24
Batangas	do	71	55	1	1	50	31	13	11	7	12	126
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	30	35		1	20	17	7	12	3	5	65
Cagayan	do	9	14			4	7	4	5	1	2	22
Capiz	do	60	56	2	1	36	23	15	17	4	17	116
Cavite	do	32	34			21	19	6	9	5	6	66
Cebu	do	175	108	20	13	129	78	24	9	2	8	283
Ilocos Norte	do	68	30			54	17	11	8	3	5	96
Ilocos Sur	do	92	58	1		65	33	17	20	9	5	150
Iloilo	do	61	67	2	4	46	37	10	11	3	15	128
Isabela	do		1						1			1
Laguna	do	28	33		1	20	15	6	5	2	12	61
Lepanto-Bontoc	do	20	21	4	1	14	10	2	7		3	41
Leyte	do	34	17	3		27	13	3	4	1		51
Masbate	do	5	4			4	3	1	1			9
Mindoro	do	9	7			8	4	1	2		1	16
Misamis	do	64	35	1		44	23	14	8	5	4	99
Negros Occidental	do	70	32	2		50	17	10	7	3	3	102
Negros Oriental	do	64	47			49	33	11	4	4	5	111
Nueva Ecija	do	22	25		1	13	15	3	7	1	2	47
Nueva Vizcaya	do	4	5			4	1		3		1	9
Pampanga	do	33	41			27	16	10	14	1	11	79
Pangasinan	do	109	91			59	33	37	34	13	19	200
Rizal	do	47	29			28	15	13	8	6	6	76
Samar	do	19	8		1	14	3	4	3	1	1	27
Sorsogon	do	76	72	2	4	55	42	17	14	2	12	148
Surigao	do	11	2			6		3	2	2		13
Tarlac	do	15	8	1		6	6	6	2	2		23
Tayabas	do	123	108	2	5	93	73	21	20	7	10	231
Union	do	40	31	1	4	18	17	16	8	5	2	71
Zambales	do	12	12			7	6	4	1	1	5	24
Hospicio de San José	[a]	54	50									104
San Lazaro Hospicio	[b]	147	25			80	10	52	11	15	4	172
Total		2,128	1,622	57	47	1,422	942	457	348	133	285	3,750

[a] Europeans, 11; Filipinos, 93. Total, 104.
[b] Americans, 3; Europeans, 1; Filipinos, 162; Chinese, 3; others, 3. Total, 172.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipinos.	25	31	2	———	10	6	10	9	3	16	56
Agusan	....do....	10	5	———	1	7	3	3	1	———	———	15
Albay	....do....	84	79	10	10	44	44	29	15	1	10	163
Ambos Camarines	....do....	98	65	6	7	38	32	36	11	18	15	168
Antique	....do....	44	38	2	3	22	15	15	9	5	11	82
Bataan	....do....	26	19	3	———	12	11	10	4	1	4	45
Batanes	....do....	13	33	1	1	2	6	3	3	2	13	46
Batangas	....do....	71	46	5	———	29	21	31	14	6	11	117
Bohol	....do....	211	160	37	16	109	82	47	29	18	33	371
Bulacan	....do....	67	63	5	1	27	27	30	15	5	20	130
Cagayan	....do....	51	64	3	4	15	14	18	13	16	33	115
Capiz	....do....	108	87	4	4	35	31	52	14	12	33	190
Cavite	....do....	69	50	3	4	25	18	23	13	13	15	119
Cebu	....do....	74	44	3	2	37	17	13	12	11	13	118
Ilocos Norte	....do....	32	27	1	———	10	8	16	8	5	11	59
Ilocos Sur	....do....	72	64	9	6	31	24	23	15	9	19	136
Iloilo	....do....	80	93	3	3	35	39	22	16	15	35	173
Laguna	....do....	56	44	3	5	24	16	13	7	11	16	100
Leyte	....do....	326	195	64	22	168	95	57	29	37	49	521
Masbate	....do....	13	3	1	1	3	5	2	———	2	2	21
Misamis	....do....	59	41	6	4	36	18	10	11	7	3	100
Mountain	....do....	49	32	———	———	———	———	———	———	———	———	81
Negros Occidental	....do....	96	63	3	5	51	34	11	3	26	21	164
Nueva Ecija	....do....	33	33	4	3	9	13	19	7	6	15	76
Pampanga	....do....	126	120	11	10	64	54	31	16	20	40	246
Pangasinan	....do....	94	89	4	5	33	33	40	24	17	27	183
Rizal	....do....	93	65	4	4	32	31	43	10	14	20	158
Sorsogon	....do....	189	107	23	18	123	70	30	10	3	9	296
Surigao	....do....	24	5	2	———	10	1	10	2	2	2	29
Tarlac	....do....	32	30	3	2	15	10	5	5	9	13	62
Tayabas	....do....	60	43	3	2	27	23	19	4	6	14	108
Union	....do....	35	39	6	6	15	3	7	10	7	15	74
Zambales	....do....	22	15	1	1	9	3	3	1	4	10	37
Total	————	2,442	1,907	280	150	1,112	812	696	350	315	563	4,349

Amount of vaccine virus distributed by the Bureau of Health.

	Units.
Amount on hand July 1, 1909	18,300
Received from the Bureau of Science	3,033,805
Found at the stations	2,000
Total to be accounted for	3,054,105
Distributed as per itemized statement	3,047,005
Remaining on hand June 30, 1910	7,100

Places at which vaccine virus was distributed.

Provinces:	
Albay	52,900
Ambos Camarines	36,400
Antique	1,000
Bataan	5,600
Batangas	43,600
Benguet	5,500
Bohol	10,000
Bulacan	26,300
Cagayan	83,000
Capiz	329,000
Cavite	15,900
Cebu	872,000
Culion	9,500
Ilocos Norte	88,000
Ilocos Sur	104,100
Iloilo	633,000
Isabela	24,200
Laguna	27,400
Lepanto-Bontoc	15,000
Leyte	75,100
Marinduque	1,200
Mindanao	200

Provinces—Continued.	Units.
Mindoro	60,200
Misamis	90,000
Nueva Ecija	21,100
Nueva Vizcaya	10,200
Occidental Negros	75,000
Palawan	805
Pampanga	17,800
Pangasinan	55,800
Rizal	32,400
Samar	40,000
Sorsogon	16,200
Surigao	16,000
Tarlac	7,700
Tayabas	16,100
Union	27,200
Zambales	28,500
Total	2,973,405
Manila:	
Health districts	55,400
Other institutions	18,200
Total	73,600
Grand total	3,047,005

Nonsystematic vaccinations.

[Closed July 28, 1910.]

	Vaccinations.	Inspections.	Positive.	Negative.
City of Manila:				
Health district No. 1, Intramuros	3,862	1,585	950	635
Health district No. 2, Meisic	24,584	7,828	4,401	3,427
Health district No. 4, Sampaloc	2,042	766	346	420
Health district No. 5, Tondo	8,464	1,621	1,291	330
Health district No. 6, Paco	2,848	586	363	173
Total	41,799	12,336	7,351	4,985
Provinces:				
Albay	51,871	15,155	11,561	3,594
Ambos Camarines	30,858	15,817	11,168	4,649
Bataan and Zambales	3,026	2,812	1,715	1,097
Cagayan	48,075	8,837	5,507	3,330
Capiz	203,330	136,431	99,463	36,968
Cavite	6,858	6,524	3,774	2,750
Cebu	248,142	64,337	45,906	18,431
Iloilo	113,311	65,710	47,729	17,981
Isabela	20,071	261	180	81
La Laguna	35,647	33,177	21,482	11,695
Negros Occidental	28,624	17,351	13,095	4,256
Negros Oriental	6,317	3,794	3,197	597
Pampanga	16,183	10,209	8,683	1,526
Pangasinan	7,761	6,004	3,487	2,517
Rizal	19,428	21,762	13,370	8,392
Sorsogon	3,194	3,128	2,483	645
Tarlac	7,603	7,224	4,489	2,735
Tayabas	12,911	11,637	9,838	1,799
Zambales	28,667	14,043	11,238	2,805
Total	891,877	444,213	318,365	125,848
Grand total	933,676	456,549	325,716	130,833

Returns of vaccinations from the provinces where systematic vaccinations have been made during the fiscal year 1909–10.

[Closed July 29, 1910.]

Province.	Period.		Number of vaccinations.	Number of inspections.	Successful vaccinations.	Unsuccessful vaccinations.	Average vaccinations per 1,000 population.
	From—	To—					
Antique	June 1, 1909	Mar. 31, 1910	96,341	68,605	57,077	11,528	784.05
Leyte	May 1, 1910	June 30, 1910	30,521	14,179	8,693	5,486	78.47
Mindoro	Jan. 8, 1910	Apr. 8, 1910	35,525	19,558	13,889	5,869	1,099.23
Misamis	Jan. 11, 1909	Mar. 31, 1910	130,900	84,781	89,295	45,486	966.24
Total and average			293,287	187,123	118,904	68,189	426.31

Report of sera.

	Anti-pestic.	Plague prophylatic.	Assorted.
Bottles on hand at the beginning of the year	230	1,024	133
Received from the Bureau of Science			266
Total to be accounted for	230	1,024	399
Issued			266
Total bottles remaining at end of the year	230	1,024	133

Smallpox and varioloid, city of Manila.

Nationality.	Smallpox.				Varioloid.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	1				3			
Filipinos	4				104	27		
Foreigners					3			
Chinese								
Total	5				110	27		

District and age.	Smallpox.		Varioloid.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	1		15	
No. 2, Meisic	3		86	
No. 4, Sampaloc	1		21	
No. 5, Tondo			10	
No. 6, Paco			5	
Total	5		137	
Ages:				
Under 1 year			5	
1 years to 10 years	1		27	
10 years to 20 years	2		38	
20 years to 30 years	1		46	
30 years to 40 years			15	
40 years to 50 years			3	
Over 50 years	1		3	
Total	5		137	

Number of cases found alive, smallpox, 5; varioloid, 137.
Number of cases found dead, smallpox, 0; varioloid, 0.

Cholera and plague, city of Manila.

Nationality.	Cholera.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans								
Filipinos	198	171	157	133				
Foreigners	5	2	1	1				
Chinese	6		6					
Total	204	173	164	134				

District and age.	Cholera.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	47	36		
No. 2, Meisic	102	81		
No. 4, Sampaloc	69	47		
No. 5, Tondo	104	89		
No. 6, Paco	55	45		
Total	377	298		
Ages:				
Under 1 year	18	18		
1 year to 10 years	87	78		
10 years to 20 years	48	29		
20 years to 30 years	99	66		
30 years to 40 years	53	47		
40 years to 50 years	33	26		
Over 50 years	37	32		
Unknown	2	2		
Total	377	298		

Number of cases found alive, cholera, 204; plague, 0.
Number of cases found dead, cholera, 173; plague, 0.

Cholera in the provinces.

Towns.	Cases.	Deaths.	Mortality.	Towns.	Cases.	Deaths.	Mortality.
Albay:			*Per ct.*	Ambos Camarines—Ctd.			*Per ct.*
Albay	44	36		Mabatobato	10	10	
Calolbon	3	2		Magarao	55	43	
Camalig	23	14		Milaor	20	16	
Daraga	80	33		Minalabag	2	2	
Guinobatan	5	2		Nabua	59	48	
Legaspi	25	14		Nueva Caceres	109	83	
Libog	12	12		Pamplona	36	28	
Libon	2	2		Pasacao	9	8	
Ligao	24	18		Pili	1	1	
Malilipot	12	7		San Fernando	29	19	
Oas	15	8		Tinambac	45	28	
Polangui	5	1					
Tabaco	4	1		Total	851	609	71.56
Total	254	150	59.05	Bataan:			
Ambos Camarines:				Abucay	121	85	
Baao	28	17		Balanga	195	147	
Bato	70	53		Dinalupijan	1		
Bula	5	2		Lamay	9	1	
Cabusao	61	37		Orani	7	4	
Calabanga	158	114		Orion	141	118	
Camaligan	45	19		Pilar	95	66	
Canamam	14	10		Samal	42	30	
Daet	4	3		Total	611	446	72.99
Gainza	1	1					
Goa	1	1		Batangas:			
Iriga	4	3		Lipa	1		0.60
Libmanan	90	68					

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.	Mortality.
Bohol:			*Per ct.*
Alburquerque	3	3	
Candijay	7	5	
Cortes	23	16	
Corella	1	1	
Dauis	2	2	
Dimiao	28	15	
Getafe	19	11	
Inabanga	87	54	
Jagna	1	1	
Loay	50	33	
Loboc	69	47	
Mabini	8	5	
Panglao	1	1	
Tagbilaran	14	11	
Total	313	205	65.49
Bulacan:			
Baliuag	96	57	
Bigaa	2	2	
Bocaue	37	24	
Bulacan	113	96	
Calumpit	67	53	
Hagonoy	154	114	
Meycauayan	32	14	
Malolos	164	120	
Obando	27	18	
Paombong	51	36	
Polo	19	12	
Pulilan	18	8	
Quingua	41	27	
San Ildefonso	1	1	
San Miguel de Mayumo	3	1	
San Rafael	3	1	
Santa Maria	9	6	
Total	882	592	71.15
Cagayan:			
Abulug	111	94	
Alcala	43	13	
Aparri	62	34	
Camalaniugan	39	19	
Gattaran	29	18	
Jimenes	1	1	
Lalloc	37	23	
Mauanan	94	59	
Piat	115	74	
Pinnapo	12	12	
Santo Niño	111	71	
Solana	2	1	
Tuao	232	153	
Tuguegarao	47	23	
Total	935	600	62.03
Cavite:			
Bacoor	1		
Caridad	1	1	
Cavite	24	12	
Imus	42	20	
Indang	12	9	
Kawit	74	56	
Maragondon	5	4	
Naic	105	94	
Noveleta	18	14	
San Francisco de Malabon	64	55	
Santa Cruz de Malabon	19	14	
Total	365	279	76.43
Cebu:			
Alegria	1	1	
Argao	4	3	

Towns.	Cases.	Deaths.	Mortality.
Cebu—Continued.			*Per ct.*
Asturias	13	8	
Balamban	15	9	
Bantayan	33	11	
Bayanan	10	5	
Carcar	36	25	
Carmen	3	2	
Cebu	587	408	
Daan-Bantayan	11	5	
Dalaguete	3	2	
Danao	3	2	
Liloan	11	2	
Malaboyoc	1	1	
Mandaue	53	41	
Minglanilla	26	19	
Naga	28	26	
Opon	29	18	
San Fernando	9	4	
Sibonga	107	54	
Talisay	60	49	
Tanjay	5	3	
Tolon	4	1	
Tuburan	6	5	
Total	1,058	704	66.56
Ilocos Norte:			
Badoc	126	69	
Batac	12	9	
Dingras	20	13	
Laoag	30	22	
Paoay	30	20	
San Miguel	11	10	
Total	229	143	47.82
Ilocos Sur:			
Vigan	1	1	100.00
Isabela:			
Cabagan Nuevo	33	21	
Ilagan	10	7	
Santa Maria	31	17	
Tumauini	8	3	
Total	82	48	58.53
Laguna:			
Cabuyao	2	2	
Calamba	27	13	
Santa Cruz	1	1	
Total	30	16	53.33
Leyte:			
Barugo	3	3	
Baybay	23	15	
Palo	2		
Palompon	1		
Tacloban	19	19	
Total	48	37	80.41
Misamis:			
Cagayan	26	17	
Mambajao	41	23	
Total	67	40	59.70
Mountain:			
Baguio	2	1	50.00
Nueva Ecija:			
Aliaga	14	8	
San Isidro	4	3	
Total	18	11	61.11

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.	Mortality.
Occidental Negros:			*Per ct.*
Cabancalan	20	5	25.00
Oriental Negros:			
Ayuquitan	6	3	
Bacong	60	56	
Bais	91	58	
Dauin	57	48	
Dumaguete	109	89	
Luzuriaga	23	19	
Manjuyod	18	12	
Siaton	179	124	
Sibulan	4	4	
Station	5	5	
Tanjay	94	57	
Tolong	2	2	
Zamboanguita	56	33	
Total	704	505	71.73
Palawan:			
Culion	22	22	100.00
Pampanga:			
Angeles	1	1	
Apalit	97	74	
Arayat	40	34	
Bacolor	157	117	
Betis	11	8	
Candaba	41	35	
Guagua	55	50	
Lubao	53	44	
Mabalacat	6	6	
Macabebe	75	61	
Magalang	3	2	
Masantol	19	16	
Mexico	13	8	
Minalin	32	25	
Porac	37	23	
San Fernando	62	46	
San Luis	58	46	
San Simon	11	11	
Santa Rita	60	50	
Sexmoan	40	28	
Total	871	685	78.64
Pangasinan:			
Aguilar	78	49	
Alaminos	10	9	
Alcala	15	12	
Asingan	35	28	
Balungao	27	16	
Bani	18	16	
Bautista	31	24	
Bayambang	67	55	
Binmaley	14	11	
Bolinao	4	2	
Calasiao	51	37	
Dagupan	110	99	
Lingayen	118	110	
Malasiqui	108	65	
Manaoag	58	49	
Mangaldan	64	43	
Mangatarem	246	158	
Mapandan	65	47	
Natividad	1	1	
Pozorrubio	4	1	
Rosales	4	6	
Salasa	12	10	
San Carlos	62	42	
San Fabian	2	2	
San Isidro	28	24	
Pangasinan—Contd.			*Per ct.*
San Jacinto	3	3	
San Manuel	9	6	
San Nicolas	1		
San Quintin	3	1	
Santa Barbara	72	37	
Santa Maria	3		
Santo Tomas	2	1	
Sual	33	20	
Tayug	1	1	
Umingan	2	1	
Urbiztondo	5	2	
Urdaneta	300	256	
Villasis	96	57	
Total	1,762	1,298	73.66
Rizal:			
Antipolo	3		
Caloocan	8	6	
Malabon	63	54	
Muntinlupa	10	8	
Navotas	42	29	
Parañaque	1	1	
Pasay	2	1	
Pasig	20	8	
Pateros	12	8	
San Felipe Neri	19	8	
San Juan del Monte	2	1	
San Pedro Macati	2	2	
Taguig	7	7	
Taytay	5	2	
Total	196	135	68.87
Romblon:			
Romblon	3	2	66.66
Samar:			
Calbayog	2	1	50.00
Sorsogon:			
Masbate	21	12	
Mobo	4	3	
Total	25	15	60.00
Tarlac:			
Anao	2	1	
Camiling	124	89	
Gerona	60	47	
Moncada	24	12	
Paniqui	35	25	
San Manuel	6	6	
San Vicente	7		
Tarlac	11	9	
Total	269	189	70.26
Tayabas:			
Lucena	4	4	
Sariaya	1	1	
Total	5	5	100.00
Union:			
Aringay		1	
Bacnotan	2	1	
Total	2	2	100.00
Zambales:			
San Antonio	2	1	50.00

SUMMARY BY PROVINCES.

Province.	Cases.	Deaths.	Province.	Cases.	Deaths.
Albay	254	150	Nueva Ecija	18	11
Ambos Camarines	851	609	Occidental Negros	20	5
Bataan	611	446	Oriental Negros	704	506
Batangas	1		Palawan	22	22
Bohol	313	205	Pampanga	871	685
Bulacan	832	592	Pangasinan	1,762	1,298
Cagayan	935	600	Rizal	196	135
Cavite	365	279	Romblon	3	2
Cebu	1,058	704	Samar	2	1
Ilocos Norte	229	143	Sorsogon	25	15
Ilocos Sur	1	1	Tarlac	269	189
Isabela	82	48	Tayabas	5	5
Laguna	30	16	Union	2	2
Leyte	48	37	Zambales	2	1
Misamis	67	40			
Mountain	2	1	Grand total	9,580	6,747

NOTE.—The information in this table is based upon corrected and revised reports.

Mortality among Government employees.

[All deceased are males.]

	Americans.	Filipinos.
Mean number of employees	2,019	7,601
Deaths reported:		
From illness	15	33
From violence	5	3
Total	20	36
Deaths from illness:		
Average years of service	4.37	3.86
Average age at death	34	32
Annual death rate per thousand	7.42	4.34
Deaths from violence:		
Average years of service	4.30	1.92
Average age at death	35	30
Annual death rate per thousand	2.47	0.39
All deaths:		
Average years of service	4.35	3.70
Average age at death	34	31
Annual death rate per thousand	9.90	4.73
Both nationalities:		
Population		9,620
Number of deaths		56
Average years of service		3.93
Average age at death		32
Annual death rate per thousand		5.82

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909.

	Abra.	Agusan.	Albay.	Ambos Camarines.	Antique.	Batangas.	Bohol.
Mean population	61,005	16,172	241,481	236,911	130,891	288,834	269,228
Births	1,941	432	11,927	9,676	4,429	14,340	11,200
Annual birth rate per 1,000	31.83	26.71	49.40	40.84	33.83	49.64	41.60
Deaths:							
From 0 to 1 year	367	61	1,416	1,174	625	3,402	1,396
From 1 to 2 years	231	14	484	459	320	1,419	488
From 2 to 10 years	515	36	1,135	1,025	647	1,963	1,101
From 10 to 20 years	96	19	421	471	170	395	401
From 20 to 60 years	400	79	1,751	1,963	541	1,758	1,344
Over 60 years	261	19	921	763	239	836	965
Unknown	0	0	1	7	5	4	49
CAUSES OF DEATH.							
Typhoid fever	28	8	33	18	0	107	69
Malarial fever	589	37	523	777	417	1,745	257
Malarial cachexia	0	4	210	17	10	251	14
Smallpox	0	1	1	1	575	4	6
Whooping cough	74	10	75	44	29	57	218
Cholera, Asiatic	24	0	350	655	11	1	524
Dysentery	390	7	147	198	168	775	175
Beriberi	2	2	26	78	0	52	39
Tuberculosis of lungs	74	2	582	500	379	762	379
Tuberculosis of other organs	4	1	46	55	22	189	116
Cancer and other malignant tumors	1	0	5	16	2	31	33
Congestion and hemorrhage of the brain	3	0	27	7	0	24	1
Convulsions of children	66	7	864	496	84	1,504	55
Acute bronchitis	2	6	169	51	1	365	3
Diarrhea and enteritis (under 2 years)	21	1	112	39	52	218	6
Chronic diarrhea and enteritis (under 2 years)	0	1	13	30	67	170	10
Diarrhea and enteritis (2 years and over)	42	2	91	122	65	348	14
Diseases of the puerperal state	16	3	186	151	32	144	104
Suicides	3	0	0	11	0	11	27
Accidental traumatism	3	0	20	16	10	32	32
Accidental drowning	3	1	1	3	3	17	6
Acute poisonings	2	0	5	2	0	10	4
All other diseases	523	135	2,698	2,580	625	3,010	3,574
Total	1,870	228	6,129	5,862	2,547	9,777	5,696
Males	1,019	133	3,170	2,993	1,303	5,081	2,928
Females	851	95	2,959	2,869	1,244	4,696	2,768
Annual death rate per 1,000	30.65	14.09	25.38	24.74	19.45	33.85	21.15
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	236	35	732	799	208	788	641
Widowers	104	12	350	455	105	318	239
Single	62	14	402	353	89	237	310
Boys	617	69	1,685	1,374	901	3,723	1,689
Condition not stated	0	3	1	12	0	20	49
Females:							
Married	188	24	664	595	226	765	597
Widows	99	15	527	498	171	561	415
Single	63	3	349	419	113	245	409
Girls	506	58	1,419	1,337	731	3,124	1,308
Condition not stated	0	0	0	20	3	1	39

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909—Continued.

	Bulacan.	Cagayan.	Capiz.	Ilocos Norte.	Ilocos Sur.	Iloilo.	Laguna.
Mean population	225,766	186,896	220,502	200,735	190,079	405,868	144,486
Births	10,795	5,334	8,760	8,019	7,911	15,409	6,461
Annual birth rate per 1,000	47.81	28.96	39.72	39.94	41.61	37.96	44.85
Deaths:							
From 0 to 1 year	2,983	1,077	1,878	885	1,452	2,752	1,972
From 1 to 2 years	985	318	614	388	795	1,357	658
From 2 to 10 years	1,883	908	1,386	810	1,481	2,550	885
From 10 to 20 years	356	429	506	258	171	701	269
From 20 to 60 years	2,010	1,869	1,778	1,019	807	2,574	1,684
Over 60 years	1,084	555	706	636	585	980	659
Unknown	9	20	6	3	3	27	32
CAUSES OF DEATH.							
Typhoid fever	198	7	68	63	136	56	57
Malarial fever	509	784	695	968	616	982	898
Malarial cachexia	15	79	82	0	0	471	207
Smallpox	447	0	479	0	28	1,609	55
Whooping cough	31	8	132	12	34	44	36
Cholera Asiatic	447	1,169	355	208	4	47	66
Dysentery	557	254	618	244	1,296	884	545
Beriberi	241	35	92	28	17	58	66
Tuberculosis of lungs	872	339	511	387	392	1,066	767
Tuberculosis of other organs	198	66	45	29	17	255	88
Cancer and other malignant tumors	15	1	14	8	8	64	15
Congestion and hemorrhage of the brain	53	1	5	3	15	31	37
Convulsions of children	2,457	418	313	353	466	1,780	1,101
Acute bronchitis	174	20	37	46	134	112	123
Diarrhea and enteritis (under 2 years)	106	147	87	91	216	85	131
Chronic diarrhea and enteritis (under 2 years)	89	24	22	0	3	62	76
Diarrhea and enteritis (2 years and over)	196	12	160	82	218	245	125
Diseases of the puerperal state	107	65	75	60	69	194	105
Suicides	8	20	17	14	10	15	15
Accidental traumatism	48	12	82	17	27	76	33
Accidental drowning	14	7	20	5	11	11	15
Acute poisonings	4	2	0	9	6	0	1
All other diseases	2,474	1,751	3,410	1,352	1,571	2,849	1,596
Total	9,260	5,171	6,819	3,994	5,294	10,941	6,154
Males	4,841	2,754	3,272	1,996	2,644	5,902	3,219
Females	4,419	2,417	3,047	1,998	2,650	5,039	2,935
Annual death rate per 1,000	41.04	27.77	28.65	19.89	27.85	26.95	42.59
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	945	868	689	474	393	1,021	897
Widowers	385	301	293	233	202	628	259
Single	405	304	360	228	114	510	209
Boys	3,015	1,251	1,927	1,061	1,933	3,738	1,923
Condition not stated	91	30	8	0	2	10	21
Females:							
Married	827	723	657	454	387	856	781
Widows	560	413	511	369	285	745	426
Single	295	218	406	228	146	346	149
Girls	2,652	1,024	1,462	946	1,831	3,089	1,605
Condition not stated	85	39	11	1	1	3	24

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909—Continued.

	Misamis.	Negros Occidental.	Nueva Ecija.	Pampanga.	Pangasinan.	Tarlac.	Tayabas.
Mean population	132,601	304,668	132,999	225,113	439,788	139,971	201,936
Births	5,478	9,908	5,414	11,289	21,561	6,870	8,227
Annual birth rate per 1,000	41.31	32.52	40.70	50.14	49.02	49.08	40.74
Deaths:							
From 0 to 1 year	896	2,064	1,300	2,919	4,111	1,689	1,725
From 1 to 2 years	210	1,082	567	875	1,782	698	474
From 2 to 10 years	349	1,958	983	1,481	3,183	959	795
From 10 to 20 years	182	628	218	338	613	245	353
From 20 to 60 years	720	2,284	958	1,883	2,874	1,025	1,720
Over 60 years	207	656	471	919	1,688	438	723
Unknown	194	25	7	0	6	0	5
CAUSES OF DEATH.							
Typhoid fever	102	21	62	195	259	114	94
Malarial fever	589	941	923	1,044	2,158	876	625
Malarial cachexia	8	333	210	291	335	297	408
Smallpox	0	1,400	240	22	274	84	1
Whooping cough	78	13	42	27	43	28	39
Cholera, Asiatic	30	340	1	589	1	101	1
Dysentery	75	848	152	361	1,129	185	300
Beriberi	86	50	42	56	62	22	61
Tuberculosis of lungs	228	887	405	904	1,356	455	685
Tuberculosis of other organs	76	22	37	60	134	45	100
Cancer and other malignant tumors	10	19	5	12	15	1	27
Congestion and hemorrhage of the brain	2	10	9	41	38	7	65
Convulsions of children	139	954	965	1,814	2,470	917	509
Acute bronchitis	32	15	45	167	192	37	126
Diarrhea and enteritis (under 2 years)	23	38	106	61	134	26	68
Chronic diarrhea and enteritis (under 2 years)	19	39	126	73	44	21	52
Diarrhea and enteritis (2 years and over)	38	108	74	98	141	49	40
Diseases of the puerperal state	62	91	88	135	215	55	153
Suicides	15	9	1	8	24	7	13
Accidental traumatism	9	58	8	27	78	35	33
Accidental drowning	1	8	0	20	20	7	8
Acute poisonings	2	2	3	2	8	13	1
All other diseases	1,144	2,496	910	2,463	5,127	1,672	2,386
Total	2,758	8,697	4,454	8,415	14,257	5,054	5,795
Males	1,492	4,666	2,363	4,484	7,623	2,628	2,975
Females	1,266	4,031	2,091	3,931	6,634	2,426	2 820
Annual death rate per 1,000	20.80	28.54	33.48	37.38	32.41	36.10	28.69
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	342	838	461	860	1,451	484	832
Widowers	120	425	215	343	664	202	260
Single	162	500	162	274	360	151	251
Boys	866	2,797	1,522	3,001	5,131	1,791	1,615
Condition not stated	2	106	3	6	17	0	17
Females:							
Married	285	724	415	850	1,388	479	771
Widows	131	569	274	508	902	246	461
Single	119	325	91	211	229	97	204
Girls	729	2,301	1,311	2,360	4,107	1,608	1,369
Condition not stated	2	112	0	2	13	1	15

Statistics of San Lazaro Hospitals division.

Report of sick.

Patients in hospital July 1, 1909	294
Patients admitted during the year	956
Patients discharged during the year	479
Patients transferred during the year	221
Patients escaped during the year	8
Patients died during the year	188
Patients remaining June 30, 1910	354

Average number of patients treated per day.

July, 1909	297	January, 1910	379
August, 1909	305	February, 1910	308
September, 1909	337	March, 1910	299
October, 1909	290	April, 1910	320
November, 1909	336	May, 1910	320
December, 1909	365	June, 1910	339

Average daily cost of subsistence per person.

July, 1909	₱0.332	January, 1910	₱0.288
August, 1909	0.303	February, 1910	0.299
September, 1909	0.301	March, 1910	0.298
October, 1909	0.337	April, 1910	0.294
November, 1909	0.331	May, 1910	0.291
December, 1909	0.324	June, 1910	0.272

Number of buildings in which orders were completed, including special sewer orders.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	4	17	5	4	1	31
	0	0	0	0	0	[a]0
August	5	15	4	1	2	27
	0	1	8	0	1	[a]10
September	10	9	2	0	0	21
	0	1	6	0	0	[a]7
October	11	6	11	2	2	32
	2	5	10	0	1	[a]18
November	4	2	1	2	6	15
	2	10	2	1	3	[a]18
December	4	8	1	1	3	17
	5	4	2	1	3	[a]15
1910.						
January	5	8	5	4	0	22
	6	9	2	0	2	[a]19
February	3	2	3	1	1	10
	3	1	2	0	0	[a]6
March	4	13	4	0	2	23
	3	7	2	1	1	[a]14
April	10	12	1	0	5	28
	1	6	0	2	1	[a]10
May	0	0	4	0	0	4
	26	18	2	1	2	[a]49
June	0	5	1	0	0	6
	12	21	11	0	2	[a]46
Total	60	97	42	15	22	236
	60	83	47	6	16	[a]212

[a] Special sewer orders completed.

Number of buildings against which sanitary orders were issued, including special sewer orders, also orders for vacating insanitary houses.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Orders pending June 30, 1909	26	68	32	3	5	134
1909.						
July	9	21	14	5	1	50
	0	3	0	0	2	[a]5
August	14	12	9	1	6	42
	7	4	4	0	0	[a]15
September	7	11	8	0	9	35
	3	10	1	0	3	[a]17
October	4	4	7	4	1	20
	11	16	2	4	2	[a]35
November	3	5	5	4	2	19
	14	15	4	2	6	[a]41
December	5	12	0	8	1	26
	21	17	5	0	2	[a]45
1910.						
January	1	1	1	0	0	3
	14	1	3	0	1	[a]19
February	2	4	0	0	2	8
	51	48	5	0	2	[a]104
March	0	19	0	0	0	19
	68	96	60	0	0	[a]224
April	0	0	0	1	0	1
	40	79	5	2	5	[a]131
May	0	2	0	0	0	2
	29	55	10	1	6	[a]101
June	5	11	2	1	1	20
	64	62	19	0	3	[a]148
Total	76	170	78	27	28	379
	322	406	117	9	32	[a]886

[a] Special sewer orders issued.

Number of buildings for which orders were canceled or withdrawn.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	0	0	0	1	1	2
	0	0	0	0	0	[a]0
August	0	0	0	0	0	0
	0	0	0	0	0	[a]0
September	2	1	2	1	1	7
	0	2	0	0	0	[a]2
October	2	1	1	0	1	5
	0	0	0	0	0	[a]0
November	0	0	0	0	1	1
	0	0	0	0	0	[a]0
December	0	0	0	0	0	0
	1	0	0	0	0	[a]1
1910.						
January	0	4	0	0	0	4
	0	1	0	0	0	[a]1
February	0	4	1	0	0	5
	0	0	1	0	0	[a]1
March	1	3	3	1	1	9
	0	1	0	0	0	[a]1
April	0	1	0	3	0	4
	0	0	0	0	0	[a]0
May	1	1	3	0	0	5
	0	2	0	0	0	[a]2
June	2	2	0	0	0	4
	5	2	1	0	0	[a]8
Total	8	17	10	6	5	46
	6	8	2	0	0	[a]16

[a] Special sewer orders canceled.

Legal prosecutions with amount of fines.

Month.	Health districts.					Amount of fines.
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	
1909.						
July	0	2	0	0	0	₱10.00
August	0	0	0	0	0	
September	0	0	0	0	0	
October	0	0	0	0	0	
November	0	0	0	0	0	
December	0	0	0	0	0	
1910.						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	[a]1	2	0	0	0	20.00
April	1	2	0	0	0	46.00
May	0	0	0	0	0	
June	1	0	0	0	0	[b]5.00
Total	3	6	0	0	0	81.00

[a] Case dismissed after work had been completed.
[b] The fine imposed against the owner was reduced from ₱25 to ₱5 in the Court of First Instance upon appeal from a conviction in the municipal court during the month of May, 1910.

Number of insanitary houses condemned and removed.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	3	6	14	0	0	23
August	0	0	5	0	0	5
September	0	3	0	0	0	3
October	0	0	0	0	0	0
November	3	0	3	0	0	6
December	0	1	0	0	0	1
1910.						
January	0	0	0	0	0	0
February	0	3	4	0	0	7
March	2	4	0	0	0	6
April	0	0	0	0	0	0
May	0	0	0	0	0	0
June	0	0	0	0	0	0
Total	8	17	26	0	0	51

Synopsis of work accomplished during fiscal year 1909–1910.

Fiscal year 1909–10.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Total of orders pending and issued	26	68	32	3	5	134
	50	102	46	24	23	245
	322	406	117	9	32	[a]886
Total of orders completed	60	97	42	15	22	236
	60	83	47	6	16	[a]212
Total of orders canceled	8	17	10	6	5	46
	6	8	2	0	0	[a]16
Total of houses removed	8	17	26	0	0	51
Prosecutions	0	2	0	0	0	2
	3	4	0	0	0	[a]7
Total of orders pending June 30, 1910	0	37	0	6	1	44
	258	311	68	3	16	[a]651

[a] Special sewer orders.

Permits for light-material buildings approved.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	1	1	16	27	14	59
August	6	2	28	70	26	132
September	1	2	17	29	30	79
October	1	1	9	27	16	54
November	0	0	9	22	15	46
December	0	0	3	14	8	25
1910.						
January	0	0	6	19	7	32
February	0	0	6	83	8	97
March	0	0	10	20	16	46
April	0	1	50	16	9	76
May	0	2	43	42	14	101
June	0	0	21	71	15	107
Total	9	9	218	440	178	854

Plans for new strong-material buildings approved.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	1	6	6	5	1	19
August	4	6	0	2	1	13
September	2	7	3	5	3	20
October	3	5	6	2	4	25
November	0	2	3	4	4	13
December	6	4	4	7	0	21
1910.						
January	6	3	3	3	1	21
February	6	5	6	6	1	24
March	9	7	4	2	3	25
April	7	1	5	5	0	18
May	3	10	14	3	2	32
June	16	18	12	3	3	47
Total	68	74	66	47	23	278

New strong-material buildings completed according to approved plans.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	2	2	1	0	1	6
August	0	1	1	0	2	4
September	5	3	6	2	0	16
October	4	7	2	3	2	18
November	10	5	4	6	4	29
December	0	4	5	2	1	12
1910.						
January	1	7	6	6	1	21
February	2	2	1	1	2	8
March	2	1	0	2	1	6
April	0	2	1	3	0	6
May	3	0	0	0	0	3
June	2	2	1	2	0	7
Total	31	36	28	27	14	136

Total number of sewer connections made and in use; this includes voluntary and compulsory.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July						
August						
September						
October						
November						
December						265
1910.						
January						
February	16	4	7	0	3	30
March	18	22	7	4	7	58
April	21	24	6	6	3	60
May	41	29	6	2	2	80
June	26	27	18	0	2	73
Total	122	106	44	12	17	566

Personnel of the division.

Month.	Engineers.	Assistant engineers.	Inspectors.	Clerks.	Draftsmen.	Messengers.	Total.
1909.							
July	0	2	3	2	1	2	10
August	2	2	1	1	1	2	7
September	0	2	1	2	1	1	7
October	0	2	1	2	1	1	7
November	0	2	2	2	1	1	8
December	0	2	2	2	1	1	8
1910.							
January	1	2	4	2	1	1	11
February	1	1	5	2	1	1	11
March	1	1	6	2	1	1	12
April	1	1	5	2	1	1	11
May	1	1	3	2	1	1	9
June	1	0	2	2		1	7

CIVIL HOSPITAL DIVISION.

Classification of medical cases.[a]

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Alcoholism	22			
Amœbiasis intestinalis	51	11	2	
Anæmia		2		
Apoplexy	3		1	
Asthma	7			
Beriberi	23	5	1	
Bronchiectasis	1			
Bronchitis:				
Acute	22	6		
Chronic	9	3		
Broncho-pneumonia	2	1	1	
Cholera Asiatica (suspects)	2	1		
Cirrhosis of liver	1		2	

[a] This classification does not represent the number of patients treated, but the number admitted for the 801 causes stated and the number of deaths that occurred.

Classification of medical cases—Continued.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Colic:				
Intestinal	21	6		
Renal	2			
Constipation	13	5		
Convalescence from:				
Malaria	23			
Dysentery	3	1		
Debility	10	3		
Dengue	33	6		
Diphtheria	1			
Dysentery (not amœbic)	23	5		
Dyspepsia	1	1		
Emphysema	1			
Endocarditis		1		
Enteritis:				
Acute	21	7		
Chronic	1	1		
Gastro	5	5		
Tubercular	1			
Epilepsy	5			
Erysipelas	2			
Fatigue	1			
Febricula	2			
Fever:				
Simple continued	3			
Unclassified	27	1		
Gastric ulcer	1			
Gastralgia	1			
Gastritis:				
Acute	3	3		
Chronic	4			
Goitre, exophthalmic		1		
Heat exhaustion	1			
Hemiplegia, (See Apoplexy.)				
Hemoptysis	4	1		
Hysteria		5		
Indigestion	14	2		
Influenza (la grippe)	9	2		
Intestinal obstruction	1			
Intestinal parasites				
Ascario-Lumbricoides	25	3		
Hookworms	10			
Monads	17	2		
Oxyuris vermicularis	1			
Strongyloides	5			
Tenia	1			
Trichuris trichura	55	7		
Trichocephalus dispar	1			
Jaundice, catarrhal	1			
Locomotor ataxia	1	1		
Lumbago	7			
Malaria:				
Cachexia	1			
Estivo-autumnal	31	3		
Quartan	1			
Tertian	60	3		
Malnutrition	2	1		
Mania	1			
Marasmus		1	2	
Melancholia	1			
Migraine	6			
Mitral disease	10	1	1	
Mumps		1		
Myalgia	3			
Nephritis:				
Acute	1			
Chronic interstitial	2			
Chronic parenchymatous	1			
Neuralgia	2			
Neurasthenia	3	1		
Neuritis	1			
Panophthalmitis	1			
Peritonitis, tubercular	1	1		
Pharyngitis	2	1		
Phosphaturia		1		
Pleurisy	3			
Pneumonia lobar	12		2	
Poisoning:				
Camphor				1
Carbolic acid	1		1	
Ptomaine	3		1	

Classification of medical cases—Continued.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Rachitis		1		
Rheumatism:				
Acute	1	1		
Chronic	3			
Rhinitis	1			
Scurvy		1		
Seasickness		1		
Septicemia, general				1
Sciatica	1	1		
Smallpox, suspected	1			
Syncope, cardiac	2			
Sprue	1			
Syphilis:				
Secondary	4			
Tertiary	1		1	
Tachycardia	1			
Teething	1			
Torticollis	1			
Tuberculosis	28	6	4	
Typhoid fever	3	2		
Undetermined (those leaving before diagnosis and those for observation)	24	5		
Vaccinia	1			
Varicella	3			
Yaws	1			

Classification of surgical cases (including eye, ear, nose, throat, and skin).

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Abdominal adhesions		1		
Abscess:				
Arm and forearm	1			
Antrum	1			
Breast		1		
Back	2			
Face	1			
Foot	2			
Gluteal	1			
Liver	4			
Perineal	3			
Periurethral	2			
Prostatic	1			
Scalp	1			
Thigh	2			
Toe	1			
Amputation:				
Arm	2			
Breast		1		
Fingers	3			
Leg		1		
Thigh		1		
Toes	2	1		
Aneurysm:				
Aortic	1	1		
Subclavian	3			
Appendicitis:				
Catarrhal acute	18	4		
Catarrhal chronic	20	5		
Suppurative	7	2		
Arthritis, gonorrheal	2	2		
Buboes	19			
Burns	7	1	3	1
Bursitis of hip	1			
Carbuncle	6			
Carcinoma:				
Of breast		1		
Of mesentery	1	1	2	
Cataract	6	2		
Cellulitis of face and neck	2			
Chancroids	7			
Cholecystitis	1			
Cholelithiasis (gallstones)	3	2		
Circumcision	7			
Cleft palate	1			

Classification of surgical cases (including eye, ear, nose, throat, and skin)—Cont.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Concussion of brain		1		
Conjunctivitis:				
Catarrhal	8			
Gonorrheal	1			
Mucopurulent	5			
Traumatic	1			
Contusions:				
Of back	11			
Of chest	3	1		
Of eyelids and eye	2	1		
Of foot	8			
Of head	1			
Of hip	3			
Of leg	2			
Of thigh	1			
Corneal ulcers	6			
Coxalgia		1		
Cyst, sebaceous	3			
Cystitis	5	2		
Cutting of throat	1		1	
Dermatitis	1			
Dislocation:				
Of shoulder	1			
Of spine	1			
Of wrist	1			
Ectropion	1			
Eczema	10			
Enucleation of eye	3			
Epididymitis	1			
Extraction of teeth	1			
Felon	1			
Fistula in ano	12			
Fistula, perineal	4			
Fracture:				
Colles'	4			
Jaws	2			
Of leg	1			
Of arm	2			
Of metacarpals	1			
Of rib	4			
Of skull	1		1	
Of spine	1			
Of thigh	1			
Of ununited clavicle	1			
Furunculosis:				
Of ear	1	2		
General	2			
Gingivitis	1			
Goitre, cystic		1		
Gonorrhea	21			
Harelip	1			
Hemorrhoids	14	2		
Hernia:				
Inguinal	10			
Abdominal	1			
Ingrowing toe nails	3			
Intestinal adhesions		2		
Iridocyclitis	1			
Iritis		1		
Keratitis	2	2		
Lachrymal cyst	1			
Laryngitis	2	1		
Lymphangitis	1			
Nephrolithiasis	1			
Optic atrophy	2			
Optic neuritis	1			
Orchitis:				
Gonorrheal	4			
Traumatic	2			
Osteoperiostitis	1			
Otitis:				
Externa	3			
Media	4			
Pancreatitis			1	

Classification of surgical cases (including eye, ear, nose, throat, and skin)—Cont.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Paraphimosis	2			
Phlebitis	1			
Prolapse of rectum	1			
Prostatitis	1			
Psoriasis	1			
Pterygium	6			
Phthisis bulbi	1			
Pyelitis and pyonephrosis	2			
Purpura		1		
Retinal hemorrhage		1		
Rupture:				
Of eye	1			
Of muscle	1			
Of spleen			1	
Sinus:				
Of arm	1			
Of chest	1			
Of jaw	1			
Spina bifida	1			
Splenomegaly	1			
Sprain:				
Of ankle	1			
Of wrist	1			
Staphyloma	1			
Strabismus	2			
Stone in bladder	1			
Stricture of urethra	4			
Synovitis of knee	1			
Tonsillitis	5	1		
Trachoma	5			
Tumor:				
Of brain	2			
Of abdomen	1			
Of back		1		
Of eye	1			
Of face	2			
Of foot	2			
Of jaw	2			
Of neck	2			
Of testicle	1			
Ulcers:				
Of leg	3			
Of rectum		1		
Varicocele	6			
Varicose veins	2			
Volvulus		1		
Wounds, gunshot, of thigh	1			
Wounds, incised:				
Of arm and hand	4			
Of abdomen	2			
Of chest	1			
Of neck	1			
Of scalp	1			
Of thigh	1			
Wounds, infected:				
Of arm and forearm	1			
Of foot	16			
Of leg	2			
Of skull	1			
Wounds, lacerated:				
Of arm	4			
Of ear	1			
Of eye	2			
Of face	4			
Of fingers	3			
Of foot	2			
Of leg	2			
Of lip	3			
Of scalp	6			
Of toe	2			
Wounds, punctured:				
Of foot	2			
Of leg	1			
Of hand	1			

Classification of obstetrical and gynecological cases.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Abortion		5		
Abscess of breast		1		
Antiflexion		1		
Cancer of uterus		1		
Childbirth		62		
Curettage		16		
Endometritis:				
Acute		3		
Chronic		8		
Hemorrhage, postpartum		1		
Menorrhagia and metrorrhagia		2		
Myoma of uterus		1		
Oophoritis		1		
Ovarian cyst		13		
Perineorrhaphy		4		
Placenta previa		2		
Pregnancy		10		
Pregnancy, extrauterine		5		
Retroversion and retroflexion		3		
Salpingitis and pyosalpingitis		9		
Septicaemia				1
Stillborn			2	
Uterine relaxation		1		
Trachelorrhaphy		5		
Vomiting of pregnancy		4		

FINANCIAL STATEMENT OF THE BUREAU OF HEALTH FOR FISCAL YEAR 1910.

The following statement shows the expenses and expenditures made during the fiscal year 1910 chargeable against the appropriation made by Act No. 1955 for the Bureau of Health during that period:

Amount certified to the Insular Auditor as outstanding liabilities from appropriation of the previous year and carried over	₱195,000.00
Amount appropriated in Act No. 1955	1,367,000.00
Total	1,562,000.00

Expenditures chargeable as follows:

General:	
Salaries and wages	₱136,860.16
Transportation in Manila	20,895.78
Repairs to automobile	120.30
Rent, telephones	1,006.60
Cablegrams	98.48
Hospicio de San José	44,600.60
Asilo de San Vicente de Paul	2,166.00
Colegio de Santa Isabel	3,432.00
Protection of infants	5,470.65
Erection of cottages for outdoor treatment of tuberculosis patients at Benguet	544.00
Stationery and office supplies	21.41
Establishing night camp for tuberculosis patients	706.82
Traveling expenses, employees	3,728.31
Freight	1,000.48
Hookworm campaign	6,167.45
Rent sanitary station	240.00
Incidental, sanitary station	11.45
Commutation of leave	28,765.09

General—Continued.		
Periodicals	₱135.20	
Rent post-office box	32.00	
Postage and telegrams	2,235.06	
New furniture	43.44	
Repairs to furniture	386.38	
Printing and binding	12,157.21	
Incidentals, general	4,001.63	
Street-car tickets	2,160.00	
Miscellaneous supplies	61,059.97	
Board of examiners	1,210.00	
Amount transferred for administration building, Baguio	6,500.00	
Amount transferred for insane ward and laundry at San Lazaro Hospital	30,000.00	
Amount transferred for physicians and nurses quarters, San Lazaro Hospital	30,000.00	
Amount transferred for Tuguegarao Hospital	80,000.00	
Amount transferred for nurses quarters, Baguio	20,000.00	
Amount transferred for communicable diseases hospital, Cebu	30,000.00	
Amount transferred for Bontoc Hospital	20,000.00	
		₱555,756.47
Suppression and extermination of epidemic diseases and pesta		75,465.97
Inspection division:		
Salaries and wages, medical inspectors	39,829.02	
Salaries and wages, district health officers	47,645.48	
Traveling expenses, medical inspectors	154.87	
Traveling expenses, district health officers	6,628.53	
Photographs	310.81	
Serum	390.50	
		94,959.21
Vaccination division:		
Salaries and wages	30,129.20	
Traveling expenses	5,272.59	
Vaccine virus	30,314.50	
Ice for virus	488.89	
Antiseptic supplies and dressings	149.10	
		66,354.28
San Lazaro Hospitals division:		
Salaries and wages	35,415.22	
Subsistence supplies	43,726.86	
Light	3,653.20	
Rent telephone	251.44	
Transportation	170.93	
Gratuity to lepers	1,499.23	
Incidentals	278.00	
Repairs	271.94	
Forage and horseshoeing	15.30	
Laundry allowance for nurses	235.20	
		85,517.32

Civil Hospital division:		
Salaries and wages	₱47.902.14	
Commutation of subsistence	1,802.16	
Subsistence supplies	32,232.06	
Rent buildings	10,470.00	
Light	4,146.30	
Rent telephone	260.50	
Laundry	5,203.79	
Repairs	175.06	
Medicine, medical and surgical supplies	10.76	
Miscellaneous and general supplies	482.40	
Transportation	1,118.35	
Extra transportation and incidentals	764.04	
Laundry allowance for nurses	650.09	
		₱105,217.65
Prison sanitation division:		
Salaries and wages		7,348.62
Baguio Hospital division:		
Salaries and wages	7,612.30	
Commutation of subsistence	895.00	
Subsistence supplies	7,522.83	
Repairs	189.99	
Fuel	1,011.80	
Laundry	719.18	
Freight	761.79	
Incidental	1,616.73	
Laundry allowance for nurses	161.28	
Miscellaneous supplies	4,108.25	
		24,599.15
Culion leper colony:		
Salaries and wages	22,575.45	
Subsistence lepers	69,934.30	
Subsistence employees	14,975.59	
Construction	26,196.27	
Incidentals	110.13	
Repairs	24.00	
Freight	5,380.31	
Collection of lepers	8,494.04	
Gratuity to lepers	14,358.80	
Miscellaneous supplies	24,416.87	
		186,465.76
Prior fiscal year		40,712.23
Total		1,242,396.66

In addition to the foregoing actual expenditures and expenses from funds appropriated in Act No. 1955, there are the following outstanding obligations chargeable to the appropriation of the Bureau:

General:		
Salaries and wages	₱110.00	
Transportation	1,755.75	
Repairs to automobile	203.00	
Rent telephones	294.23	
Stationery and office expenses	12.96	
Traveling expenses of employees	2,042.45	
Freight	463.46	
Hookworm campaign	244.59	
Commutation of leave	1,003.32	
Printing and binding	300.00	
Incidentals, general	2,695.20	
Miscellaneous supplies	57,596.06	
Board of Dental Examiners	8.00	
Miscellaneous, general	5,000.00	
		₱71,729.02
Suppression and extermination of epidemic diseases and pests		360.20
Inspection division:		
Salaries and wages	400.00	
Traveling expenses district health officers	15.00	
		415.00
Vaccination division:		
Salaries and wages	685.35	
Traveling expenses	526.85	
		1,212.20
San Lazaro Hospital division:		
Rent telephone	50.00	
Incidentals	1,099.45	
		1,149.45
Civil Hospital division:		
Salaries and wages	156.67	
Subsistence supplies	381.56	
Rent telephone	28.00	
Incidental	377.11	
		943.34
Baguio Hospital division:		
Subsistence supplies	15.75	
Freight	70.75	
Incidental	6,712.05	
Miscellaneous supplies	1,406.63	
		8,205.18
Culion leper colony:		
Salaries and wages	1,800.00	
Subsistence, employees	282.00	
Construction	9,000.00	
Freight	65.25	
Collection of lepers	9,795.95	
Miscellaneous supplies	12,392.76	
		33,335.96

Lighting General Hospital	₱7,000.00
Miscellaneous prior fiscal year	105,464.44
Total liabilities	229,814.79

The following amounts as credits to the above appropriation were collected during the fiscal year:

General	₱58,866.65
Civil Hospital	22,078.75
Baguio Hospital	7,502.78
Board of examiners	2,896.00
Sales of medicine, supplies, empty tubes vaccine virus, care of insane, etc	5,230.18
Total receipts	96,574.36

The above does not include journal credit entry made by the Insular Auditor for the month of June, 1910.

Total available at the beginning of the fiscal year		₱1,562,000.00
Expenses and expenditures during the year	₱1,242,396.66	
Outstanding obligations	229,814.79	
Total	1,472,211.45	
Receipts	96,574.36	
Total chargeable against general fund		1,375,637.09
Total available		186,362.91

The following statement shows the expenses made from appropriation made by Act No. 1960 for the Bureau of Health for the Mountain Province, Province of Nueva Vizcaya and subprovince of Agusan:

Appropriated		₱23,000.00
Expenses	₱8,152.25	
Liabilities	745.00	
Total chargeable against appropriation		8,897.25
Balance available		14,102.75

In virtue of Act No. 1975, Nurses' Training School, the Bureau of Health has disbursed from the balance appropriated in Act No. 1931 the amount of ₱2,464.03, with an obligation outstanding at the end of the fiscal year in the amount of ₱420.54.

There are also obligations amounting to ₱66,880.30 for supplies for equipping the Philippine General Hospital chargeable against the ₱100,000 appropriated in Act No. 1954.

The Bureau of Health has also approved payment for the lots where the Cebu Hospital is to be erected, amounting to ₱1,750.

Census of the city of Manila taken by the Bureau of Health, January, 1910.

Health district.	Kind of house materials.			Number of inhabitants.		
	Strong.	Light.	Mixed.	Total.	Male.	Female.
No. 1, Intramuros	1,297	1,258	305	29,744	17,036	12,708
No. 2, Meisic	6,719	857	688	82,771	51,995	30,776
No. 4, Sampaloc	1,541	8,036	804	37,697	19,536	18,161
No. 5, Tondo	792	8,017	1,548	62,354	32,029	30,325
No. 6, Paco	293	2,720	757	21,843	11,012	10,831
Total	10,642	15,883	4,102	234,409	131,608	102,801

Health district.	Ages.											
	5 years and under.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		Other nationalities.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros	119	90	1,697	1,627	55	50	5	6	4	----	3	3
No. 2, Meisic	7	15	4,190	3,820	24	67	11	2	90	52	9	6
No. 4, Sampaloc	32	27	2,821	2,762	36	37	12	9	7	2	6	3
No. 5, Tondo	13	25	5,469	5,397	15	3	1	1	16	4	----	1
No. 6, Paco	27	23	2,006	1,974	8	15	9	4	1	----	4	1
Total	198	180	16,183	15,580	138	172	38	22	118	58	22	14
	Over 5 to 14 years.											
No. 1, Intramuros	55	39	1,950	1,672	35	56	4	1	7	1	5	5
No. 2, Meisic	12	15	4,536	4,042	45	46	1	3	393	51	6	7
No. 4, Sampaloc	19	10	3,047	2,729	38	39	7	7	11	1	1	3
No. 5, Tondo	9	12	4,499	3,922	35	51	4	----	11	2	3	2
No. 6, Paco	21	13	1,413	1,341	2	5	3	7	9	2	3	2
Total	116	89	15,445	13,706	155	197	19	18	431	57	18	19
	Over 14 years.											
No. 1, Intramuros	1,398	583	10,464	8,185	505	282	41	39	626	12	63	57
No. 2, Meisic	668	69	30,264	22,180	316	99	141	36	10,792	218	490	48
No. 4, Sampaloc	307	112	11,908	11,947	186	172	148	42	663	34	297	225
No. 5, Tondo	119	34	20,915	20,847	26	11	14	5	873	8	7	----
No. 6, Paco	214	87	7,008	7,247	24	31	63	23	190	3	12	3
Total	2,706	885	80,549	70,406	1,057	645	402	145	13,144	275	869	333

Health district.	Condition.							
	Single.		Married.		Widowed.		Divorced.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros	7,810	3,257	4,955	4,773	328	1,123	4	5
No. 2, Meisic	22,188	6,766	18,545	12,796	1,228	3,031	34	58
No. 4, Sampaloc	5,302	3,108	7,443	7,140	788	2,249	16	35
No. 5, Tondo	6,239	3,359	14,325	14,186	1,229	3,252	161	108
No. 6, Paco	2,477	1,706	4,521	4,506	487	1,214	21	18
Total	44,016	18,196	49,789	43,400	4,010	10,869	236	224

Census of the city of Manila taken by the Bureau of Health, January, 1910—Cont'd.

Health district.	Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	Other nationalities.
	Male.					
No. 1, Intramuros	1,572	14,111	595	50	637	71
No. 2, Meisic	687	38,990	385	153	11,275	505
No. 4, Sampaloc	358	17,771	260	162	681	304
No. 5, Tondo	141	30,883	76	19	900	10
No. 6, Paco	262	10,422	34	75	200	19
Total	3,020	112,177	1,350	459	18,693	909
	Female.					
No. 1, Intramuros	712	11,484	388	46	13	65
No. 2, Meisic	99	30,032	212	41	331	61
No. 4, Sampaloc	149	17,428	248	58	87	231
No. 5, Tondo	71	30,166	65	6	14	3
No. 6, Paco	123	10,562	101	34	5	6
Total	1,154	99,682	1,014	185	400	366
	Both sexes.					
No. 1, Intramuros	2,284	25,595	983	96	650	136
No. 2, Meisic	786	69,022	597	194	11,606	566
No. 4, Sampaloc	507	35,209	508	220	718	535
No. 5, Tondo	212	61,049	141	25	914	13
No. 6, Paco	385	20,984	135	109	205	25
Total	4,174	211,859	2,364	644	14,093	1,275

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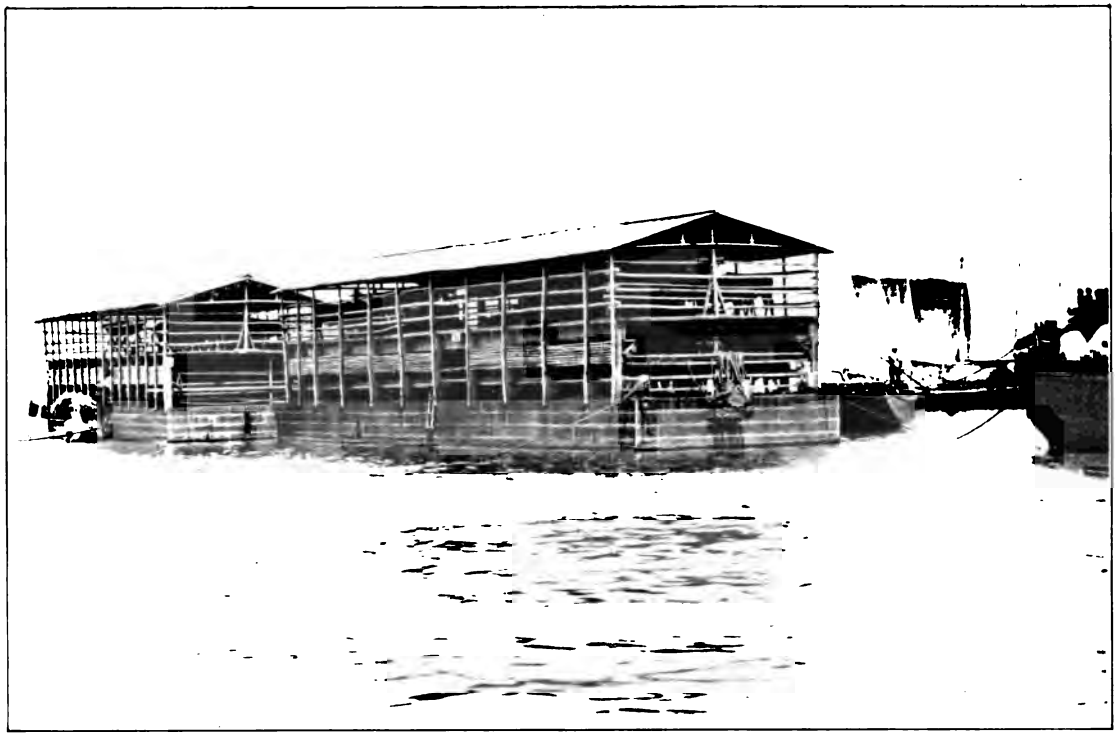
NEW PAIL CLEANING SHED, OPERATED IN CONNECTION WITH SEWER PUMPING STATION.

FLOODED STREET DURING HIGH TIDE, CALLE TIMBUGAN (SHOWING CITY TO BE BELOW SEA LEVEL).



CATTLE QUARANTINE BOATS, MANILA BAY.

MAIN DRAINAGE DITCH, SANITARY BARRIO, SAMPALOC.
(Draining large area of low land.)

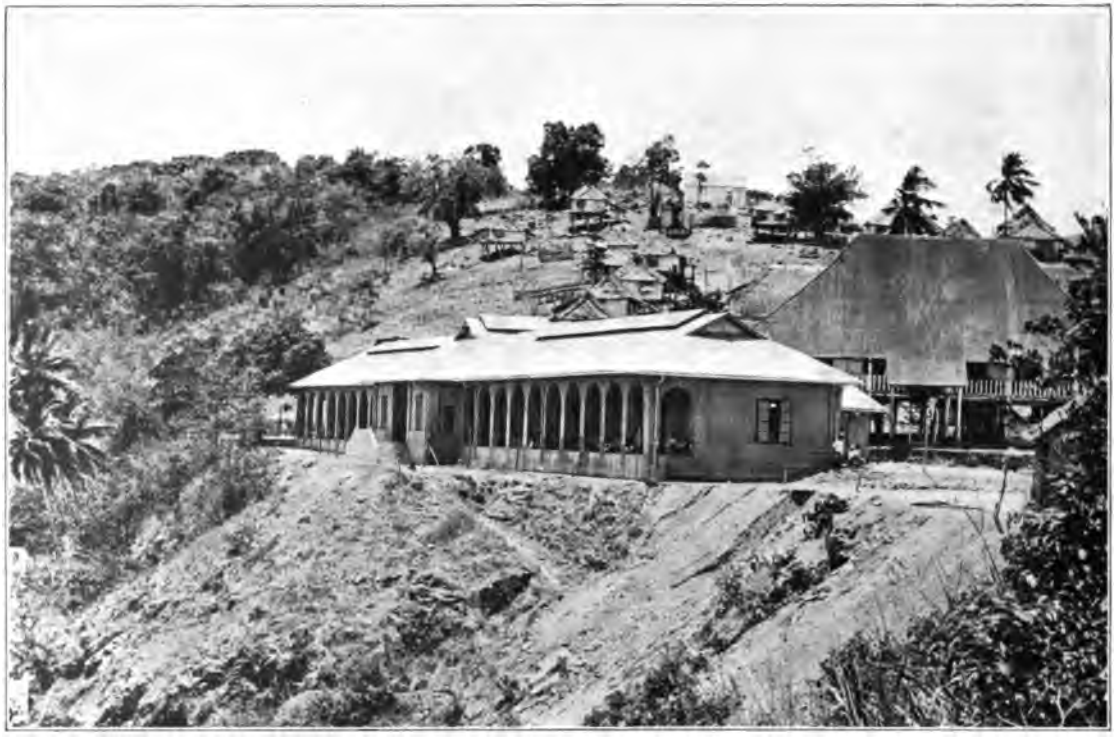
CHINESE MANUFACTURING CHOCOLATE.

WATER CARRIERS TO OUTLYING BARRIOS (MANILA).

HEADQUARTERS OF TUBERCULOSIS CAMP AT EL DEPOSITO, SAN JUAN.

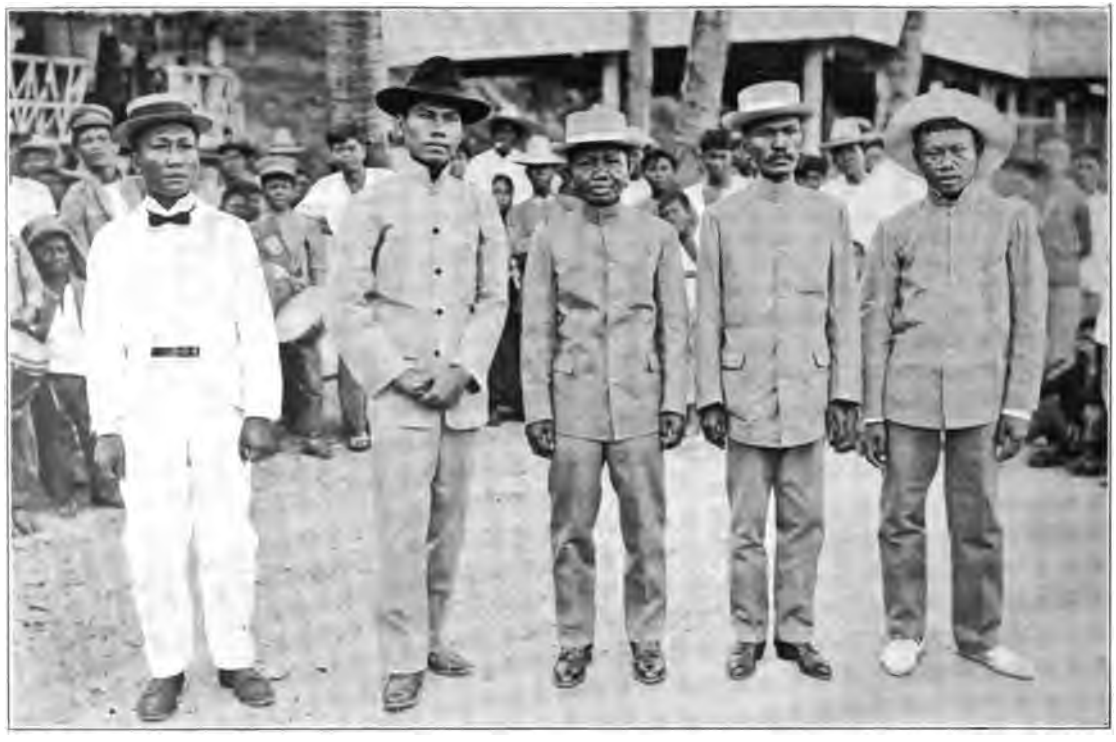
CULION LEPER COLONY, LOOKING TOWARD THE SOUTHEAST.

NEW CAUSEWAY RECENTLY COMPLETED, CULION LEPER COLONY.

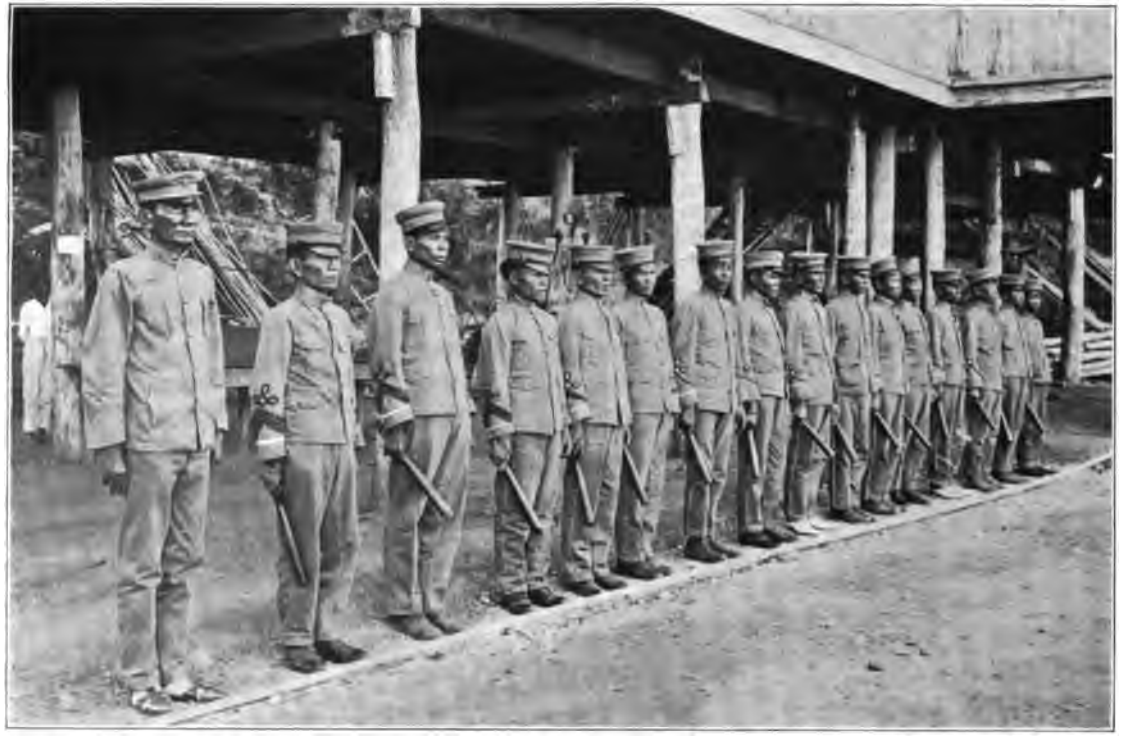


NEW REINFORCED CONCRETE HOSPITAL, CULION.

NEW TYPE OF REINFORCED CONCRETE TENEMENT HOUSE FOR LEPERS AT CULION.



MUNICIPAL PRESIDENT AND COUNCILORS OF THE CULION LEPER COLONY (ALL LEPERS).



CU'LION POLICE FORCE (ALL LEPERS).

LEPER BAND, CULION LEPER COLONY.

INTERIOR VIEW OF MEN'S HOSPITAL, CULION LEPER COLONY.

CHAPLAINS OF THE CULION LEPER COLONY.

SISTERS OF CHARITY AS NURSES, LEPER HOSPITAL AT CULION.

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ANNUAL REPORT OF THE BUREAU OF HEALTH *for the* PHILIPPINE ISLANDS

FOR THE

FISCAL YEAR ENDED
JUNE 30, 1911

CARROLL FOX
ACTING DIRECTOR OF HEALTH
Passed Assistant Surgeon
United States Public Health and Marine-Hospital Service

MANILA
BUREAU OF PRINTING
1911

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OFFICE PERSONNEL.

MYRON H. CHANDLER, *Chief, Clerical Division.*
GEORGE H. GUERDRUM, *Chief, Sanitary Engineering Division.*
MANUEL GOMEZ MARTINEZ, *Chief, Statistical Division.*
BERTRAND D. BURNHAM, *Chief, Property Division.*

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Junior Medical Inspectors.—José P. Bantug, Andrés Bautista, Manuel B. Foronda, Marcelino M. Gallardo, Arturo Garcia, Pacifico R. Panlilio, Carmelo M. Reyes, Olivia Salamanca, Gervasio Santos, Mariano Tolentino.

District Health Officers.—Arlington Pond, Walter K. Beatty, Gilbert I. Cullen, Thomas E. Moss, J. R. Hurley (*quarantine officer*),[2] José Mascuñana, Manuel Llora, Rafael Villafranca, José Losada, Andrés Catanjal, Florentino Ampil, Luis Caballero, Antonio Fernando, Donato Montinola, Buenaventura Toribio, Francisco Xavier, Francisco Lopez Lubelza.

Chiefs of Hospital Divisions.—Frank W. Vincent, Baguio Hospital Division; Paul Clements, Culion Leper Colony Division; James W. Smith, Prison Sanitation Division; Almon P. Goff, San Lazaro Hospital Division.

Superintendents of Hospitals.—Newton C. Comfort, Acting, Philippine General Hospital; Thompson L. Lewis, San Lazaro Hospital; Harry E. Smith, Baguio Hospital.

Chaplains Culion Leper Colony.—Father Raymundo Peruga, Father José Tarragó.

Anæsthetist.—Emma J. Ochsner.

Supervising Nurse.—Margaret M. Wheeler.

Chief Nurses.—Elsie P. McCloskey (Philippine General Hospital, superintendent, Philippine Training School for Nurses), Anna Heil (Baguio Hospital), Lola A. Tillotson, (San Lazaro Hospital).

Municipal Physicians.—Juan B. Cabarrús, Francisco Castañeda, Vicente Cavanna, Proceso Gabriel, Florentino Herrera, Valeriano Pantoja, Canuto Reyes, Tee Han Kee.

---

[1] Passed Asst. Surgeon, U. S. P. H. & M. H. S., Chief Quarantine Officer.
[2] Passed Asst. Surgeon, U. S. P. H. & M. H. S.
[3] Assistant Surgeon, U. S. P. H. & M. H. S.

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N. B.—This list does not include Sisters of Charity, foremen, subforemen, carpenters, overseers, helpers and servants in hospitals, laborers, and other unskilled employees and laborers, numbering about 500 persons.

ANNUAL REPORT OF THE BUREAU OF HEALTH.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, August 1, 1911.

SIR: I have the honor to submit the twelfth annual report of the Bureau of Health for the Philippine Islands, covering the period from July 1, 1910, to June 30, 1911.

The year has been one of the most successful in the history of the Bureau. The state of the public health at the end of the year is more satisfactory than at any time during the past ten years, which makes it possible to commence the new year under favorable auspices. The energy and resources of the Bureau which heretofore have been necessarily spent in combating dangerous communicable diseases may now be directed toward the improvement of general and special conditions.

While there were some cases of cholera in two or three provinces, the disease did not assume epidemic proportions. Plague has raged in the countries to the north, but with the exception of one case from Amoy which died in quarantine at Mariveles, the disease has not been introduced in the Philippines.

The old Philippines Civil Hospital, an institution that did a great deal of good during its existence and which must ever figure in the early history of American occupation, was officially closed September 1, 1910, and its patients transferred to the new Philippine General Hospital. The completion and occupation of this magnificent institution marks an epoch in the history of medicine in the Far East.

ABSENCE OF THE DIRECTOR.

Dr. Victor G. Heiser, the Director of Health, left Manila March 1, 1911, on an extended leave of absence, to be devoted to the study of health measures and sanitary science in other countries. He went to Europe by way of the islands of the South Pacific and Australia. After visiting the principal cities of Europe and studying their health conditions and attending the Mohonk Conference, his itinerary takes him to Panama, Cuba, Jamaica and the principal cities of the United States for the purpose of investigating their sanitary methods. The knowledge thus gained will be utilized for the betterment of sanitary conditions in the Philippine Islands.

BIRTH RATE.

The number of births reported in Manila during the year was 9,180, giving a rate of 39.16 per thousand in a population of 234,409. The return of births must be regarded as incomplete. With all the methods that have been adopted, the number reported still falls far short of the number of children born.

By nationalities the births in Manila were as follows:

Filipinos	8,957	Americans	124
Spaniards	36	All others	63

The Chinese population is made up almost entirely of adult males many of whom are intermarried with Filipinos, hence their children are usually reported as Filipinos.

Conditions are becoming more settled every year and American officials and employees of the Government and American business men are more and more establishing homes which accounts for the increase in birth rate among this class.

The failure to have all the births registered is not chargeable to the Bureau of Health but to the people themselves. The birth of a child among the poorer classes is too common an event to excite in its parents a realization of the requirements of the Revised Ordinances, and unless some sanitary inspector accidentally discovers that the population has increased the fact may not be known.

DEATH RATE.

The number of deaths in Manila for the year was 8,279, including 491 transients, which gives a rate of 33.22 per thousand based upon the permanent population. More detailed information can be found in the statistical tables. The provincial rate is estimated at about 29 per thousand.

DEATHS WITHOUT MEDICAL ATTENDANCE.

Of the 8,279 deaths in Manila for the year, 3,779 were without medical attendance. In the earlier years of American occupation the proportion of such deaths was about 50 per cent. The free dispensary medical service, the free obstetrical service, and municipal physicians' service have played an important part in the improvement of late years.

The conditions in respect to medical practice among the poor classes are still unsatisfactory, and the only remedy is to secure the confidence of the people and disabuse their minds of the present doubt and distrust and to more widely disseminate information as to where medical and obstetrical service may be had free of charge to the poor, and by such methods and measures to educate the masses to a better appreciation of the possibilities of modern medical science. It may be said that at the present time there are whole provinces without a single physi-

cian unless it be the representative of the Bureau of Health. In such provinces one finds men, known as mediquillos, having a smattering of the subject of medicine. As long as such individuals confine themselves to the use of simple remedies they probably do more good than harm and it is hardly fair to prohibit this practice unless the Government is in a position to give the inhabitants something better.

DEATHS AMONG TRANSIENTS.

There were 491 deaths of transients in Manila during the year. As this class does not figure in the city census, these deaths are not counted in computing the annual death rate per thousand.

Formerly nearly all transient deaths were among adults but since the free clinics of the Bureau of Health have become better known, many children are brought into the city for treatment. The hospitals of the city receive many patients from the provinces, some being brought in the last stages of their ailments, which accounts for a considerable portion of the deaths among transients.

The most important causes of deaths among transients were:

Tuberculosis of the lungs	130	Pneumonia	15
Other epidemic diseases (beriberi)	35	Organic diseases of the heart	12
Convulsions (under 5 years)	19	Dysentery	11
Asiatic cholera	16	Bronchitis, acute	11
Chronic bronchitis	15	Congenital debility	10

OBSCURE CAUSES OF DEATH.

About eighteen months ago this Office directed a series of autopsies to determine among other things the cause of the many deaths attributed to "convulsions of children," infantile beriberi, and many other causes in which the diagnosis, without autopsies, must have naturally involved more guessing than accuracy would sanction.

Several practitioners objected to the autopsies on the ground that it was a reflection on their diagnostic ability, and filed an elaborate protest with the Government, thus to some extent interfering with the investigation. To give assurance of the desire of the Bureau of Health to assist the Filipino physicians in every possible way and expecting education to make things right eventually, the following circular was issued to the medical officers of the Bureau and others concerned:

Until further notice, the practice of verifying diagnoses on death certificates by autopsies will be discontinued except when indicated by special circumstances or conditions in which case the attending physician should be notified and the reasons for such autopsy explained by him and the Medical Inspector to the family or relatives of the deceased so that it may be understood that the autopsy is for the study of disease and for the purpose of obtaining reliable statistical information, and not as a reflection on the family physicians.

Rectal specimens in doubtful cases should still be taken as heretofore, care being taken to impress on the family that such a procedure is not a reflection on the attending physician. In cases where ante-mortem specimens which are always to be preferred, have been obtained, the post-mortem specimen need not be taken.

While the Bureau of Health does not intend to waive its right to order autopsies when such are needed for the study of any special diseases, or when it is obvious that physicians are erroneously ascribing the cause of death to other diseases than the correct one, every precaution will be taken to inform the people and especially the families in which deaths occur, that the autopsies are not held as a reflection on the attending physician but as a public health measure for the benefit of the people through better knowledge of disease.

ANTE-MORTEM SPECIMENS.

In every case which could possibly be considered suspicious of cholera, ante-mortem specimens are taken and sent to the Bureau of Science for examination. The following circular will show the instructions that have been issued and are being observed throughout the Philippine Islands:

Your attention is called to the great importance of taking cultures from the stools or from the intestinal contents in cases suspicious of cholera, as it is probably these undiagnosed cases, mild or severe, which carry the infection over from one season to the other. Even cases of diarrhoea with no other symptoms may show the cholera vibrio upon examination of the stools.

For this reason you are directed to keep on hand at all times some tubes of agar which can be obtained on requisition. The surface of this agar should be spread with some of the possibly infective material from a suspicious case and sent to this Bureau immediately to be examined. The culture tube should be properly protected by cotton and packed in a bamboo container to avoid breakage. With the tube should be the necessary data.

INFANT MORTALITY.

Several years ago the Bureau of Health began a campaign of education in matters pertaining to the care of infants. A special bulletin was prepared by a committee of native physicians and distributed among the people. In this bulletin special emphasis was placed on the value of proper feeding and the danger of allowing children to eat solid food before the eruption of the temporary teeth. It was shown that mother's milk is the proper food for a young child and that the next best substitute is cow's milk. The best evidence that the health authorities have that these bulletins were widely read, even if not to advantage, is the fact that the consumption of milk in the city has increased probably 500 per cent, nearly all of the output being used as food for infants. As important as this factor is, it has had no marked effect in saving the lives of children, and the reason therefor must be apparent to all who know anything of local conditions. The trouble lies in the improper care of vessels and receptacles in which the milk is kept, the practice of adding river or estero water, and the failure to take the necessary precautions to keep the milk fresh. There is also the contamination at the time of milking to

be reckoned with. Probably 95 per cent of the milk used is carabao milk. The carabao is by nature a dirty animal, and undoubtedly contributes a full share to the sum of impurities that vitiate the milk by the time it reaches its destination, the infant's stomach.

The Sanitary Code provides that all milk dealers shall register at the Bureau of Health, and that all vessels or receptales used by them as containers for milk shall be made of smooth, impervious material, which is capable of being thoroughly sterilized by heat or other improved means, and that such containers shall be provided with suitable covers for protection against dust or other impurities and shall be sterilized each time before use. The code also provides that all milk sold or offered for sale shall be at all times subject to examination and analysis by the Bureau of Health, and that diseased milch animals may be summarily condemned and destroyed.

The practice of adding water to milk is so firmly established that it was found necessary to make provision in the code that it shall be unlawful to bring into the city or sell or offer for sale any milk that is not fresh or wholesome or that has been watered, adulterated, reduced or changed in any way by the addition of water or other substance. Adulterated milk is defined as (*a*) milk containing less than 12 per cent of milk solids, including fats; (*b*) milk containing more than 88 per cent of water or fluids; (*c*) milk containing less than 3 per cent of fats; (*d*) milk drawn from animals within fifteen days before or after parturition; (*e*) milk drawn from animals fed on any substance in state of fermentation or putrefaction, or any unwholesome food; (*f*) milk drawn from cows in a diseased or unhealthy condition, or from cows kept in a crowded or unsuitable place; (*g*) milk from which any part of the cream has been removed, unless the fact is made known to the purchaser at the time of sale; (*h*) milk to which has been added water or any foreign substance whatever.

It is a difficult matter to enforce these regulations. Success will not come until the people themselves learn to appreciate the fact that most diseases are introduced into the system from without, and that the infecting principle is a germ against which the only protection is absolute cleanliness. This idea of disease appears to the minds of the masses of the people as too hypothetical to be worthy of belief. The native physician, in the course of time, may educate the people along these lines, but not until the needless sacrifice of thousands of babies has been made.

Samples of milk are sent to the laboratory of the Bureau of Science frequently and if the bacterial count is excessive an investigation into the methods of handling the milk is made and if subsequent examinations show the bacterial count to be high, the sale of the milk is prohibited.

AN EFFORT ON THE PART OF THE BUREAU OF HEALTH TO IMPROVE THE MILK SUPPLY OF MANILA.

The question of a pure milk supply being, in Manila, as important from a sanitary standpoint as in any other large city and so intimately associated with infant mortality, the Bureau of Health has recently issued regulations with a view towards bettering the methods of collecting and storing milk for sale.

It may be said that although most native mothers suckle their offspring, the infant mortality among the Filipinos is appalling. Malnutrition plays an important part in the production of the high mortality. Whether this malnutrition be due to impoverished milk from an underfed, anaemic mother; whether it be due to enteric troubles as a result of improper food; or whether it be due to infantile beriberi (assuming that such a condition is an entity) or due to something present or lacking in a beriberic mother's milk, the solution of the question is the same—namely, to supply a pure milk on which infants can be fed and from which they can receive benefit. The splendid work done by the "Gota de Leche" Society shows what can be accomplished by scientific feeding with a pure milk. The canned milks offer a food which is sterile and if diluted with sterile water and made so that the different ingredients are in the proper proportion serve well as a substitute for mother's milk. The majority of mothers however are apt to mix this milk in such a way that certain of the constituents are in excess of the normal amount. This is especially true of the milks preserved with sugar where the infant is very liable to get an excess of carbohydrate which it can not digest and which will cause disturbance.

However it is no doubt true that even poor mother's milk and canned milk unscientifically used would be better than much of the extremely poor, bacteria-laden fresh milk sold by the native vendors. The milking is done in a most insanitary way and from the very start the milk is highly contaminated; and as it furnishes a splendid medium for the growth of bacteria with the added favorable temperature of the tropics it takes but a short time for the organisms to multiply to many millions per cubic centimeter. Whether these particular organisms can produce diseases, or whether there must be occasionally some pathogenic organisms present in the milk to give trouble; or whether it is a toxin produced by the organisms, is not a matter to be discussed here. It is sufficient to state that in large cities of Europe and the United States during the summer months disease and death among infants is much greater than in the cold weather because the conditions are such that the milk can become overgrown with bacteria and that when such milk is sterilized or pasteurized the mortality and morbidity fall markedly. Unfortunately in this country ice is out of the reach of the small dairies or milk dealers and the next best thing is to educate them along the lines of cleanliness thus preventing as far as possible an initial con-

tamination of the milk as well as any subsequent contamination; and at the same time to compel them to avoid adulteration, as it is very common to find milk low in its necessary constituents due to watering.

An average of ten samples of carabao milk, which might be classed as good, showed 7.82 per cent of fat and 7.50 per cent of solid nonfat. Both figures are below the standard set for carabao milk. Ten samples of milk, classed as poor, gave an average of 4.33 per cent of fat and 4.15 per cent of solid nonfat. Both figures are much below the required standard. Education, with the occasional stimulus of prosecution with a fine, has recently improved the conditions to a noticeable degree. The average bacterial count of fifteen samples is 20,500,000 per cubic centimeter. This might be much greater, and the mere fact that it is not greater holds out hope that it will not be very difficult to get some improvement.

Fresh milk will be consumed more and more in the future especially since milch cows may now be brought in from Australia, and when the consumption becomes greater if bacterial purity is not maintained it might be wise to establish a central pasteurizing depot, where milk could be sterilized before being delivered to the consumers.

The following regulations for milking, handling and selling of fresh milk have been promulgated:

1. Diseased persons and diseased animals shall be excluded from milking; also the cows and caraballas two weeks before or one week after calving.

2. Never excite a milch cow or *caraballa* by hard driving, abuse or unnecessary disturbance.

3. Keep the stable thoroughly clean and remove the manure within one hour previous to milking.

4. Feed no dry, dusty feed just previous to milking.

5. Use only receptacles and utensils made of glass, porcelain or smooth surfaced metal with well fitted corks or covers for collecting, distributing or peddling of milk. Never allow metal utensils to become rusty or rough.

6. Immediately after use, clean all receptacles and utensils with soap and pure water and then immerse in boiling water for half an hour.

7. Dry all receptacles and utensils by keeping them inverted in a clean, airy and sunny place.

8. Wash your hands with soap and boiled water before milking.

9. Wash the udder and adjacent parts with soap and warm boiled water before milking.

10. Milk with your hands wet in warm boiled water and never touch the milk with your hands.

11. Throw away about a tablespoonful of the first portion of the milk.

12. Throw away all milk that has a bloody, stringy or unnatural appearance, or that becomes dirty by accident.

13. Strain the milk through a metal strainer and then keep it in a dry clean place; screened against flies, or better in a clean ice box.

14. Never add anything to the milk for sale.

15. Boiling is not necessary to purify the milk; heating to a point just below is all that is required.

REPORTABLE DISEASES.

The requirement that physicians shall report certain diseases to the Bureau of Health does not meet with the enthusiastic support from the practicing physicians that its importance merits. Cholera, smallpox, leprosy, plague, scarlet fever, and diphtheria are exceptions to the rule of negligence, since they are generally reported.

Typhoid fever is a reportable disease in Manila, yet it is one of the diseases most frequently forgotten.

The Bureau has added tuberculosis to the list of reportable diseases and is endeavoring to obtain more accurate information. For this purpose the following circular was issued to the physicians of Manila and others concerned:

1. Attention is invited to sections 157 and 158 of the Sanitary Code of Manila which read as follows:

"SEC. 157. Every physician or other person having knowledge of, or any householder, tenant, or occupant upon whose premises occurs any case of dangerous communicable disease, shall immediately notify the Bureau of Health by telephone or messenger, specifying the disease and the name and address of the person afflicted. Every physician having charge of a case of dangerous communicable disease shall within twenty-four hours give written notice to said Bureau, and shall cause the same to be isolated pending action by the Director of Health. Public hospitals, dispensaries, asylums, convents, boarding schools, infirmaries, or prisons shall provide and maintain a suitable room or rooms or place for the isolation of persons suspected of having a dangerous communicable disease.

"SEC. 158. The term 'a case of dangerous communicable disease,' for the purpose of this code, shall be held to include any person sick of or affected or attacked by any of the following-named diseases: Cholera, smallpox, chickenpox, plague, diphtheria (including membranous croup), filariasis, ship or typhus, typhoid or enteric, spotted, relapsing, yellow, or scarlet fever; measles, glanders, leprosy, actinomycosis, cerebro-spinal meningitis, and anthrax, and shall further include any other disease publicly declared by the Director of Health to be communicable and dangerous to the public health."

2. Tuberculosis is hereby declared a dangerous communicable disease and thus becomes reportable.

For some reason, typhoid fever is very rarely reported, although there have been a number of cases in Manila, and for this reason it is desired to emphasize the requirement that *typhoid fever* and *tuberculosis* be reported in the future. In the case of these two diseases, immediate notice by telephone or messenger is not necessary. All that is required is a written notice within twenty-four hours.

MUNICIPAL PHYSICIANS.

There are eight municipal physicians employed in the city of Manila to render gratuitous assistance to the poor of the city. They are getting nearer to the people every year, as special effort is being made to overcome and to dissipate the superstitions of the poorer classes.

The municipal physicians personally are men of character and education and take a deep interest in their work.

During the year there were 7,768 patients seen by municipal physicians and 31,780 prescriptions written.

At Station A, Meisic, there is a Chinese municipal physician for the care of the indigent Chinese population.

FREE OBSTETRICAL SERVICE.

At each station of the Bureau of Health in Manila there is a midwife to attend the confinement cases among the poor. At some of the stations there are two. The Philippine Medical School also conducts a free obstetrical service and sends out native trained nurses to instruct the mothers in the care of their newborn children. From time to time the professor of obstetrics in the Medical School, gives popular lectures to the women of Manila on subjects which they as mothers should know. The expansion of the free obstetric service has been very successful and it is becoming more and more popular with the masses, who heretofore have known nothing of the benefits of scientific practice in this specialty.

SIMPLE REMEDY PACKAGES.

In order to more generally distribute simple remedy packages among the people the following circular was sent to the municipalities through the district health officers:

Attention is invited to the fact that many of the municipalities throughout the Philippine Islands are not provided with any medicines whatsoever, and in this connection to state that this Bureau has prepared a small pamphlet, in English, Spanish and the principal dialects upon the use of simple remedies, and is prepared to furnish the medicines which are described therein in packages that range in price as follows:

Package No. 1	**₱25.00**
Package No. 2	**8.00**
Package No. 3	**2.00**

It is respectfully suggested that this matter receive consideration with the view of having at least all of the more isolated municipalities provided with packages.

Many of the municipalities have purchased these packages as will be seen from the fact that 226 packages were sold this year as against 92 last year.

In addition to this, medicines have been furnished free of charge to missionaries and other reliable people who travel in remote places, and whose business brings them in contact with the indigent sick.

Simple remedy packages are selected assortments of medicines and medical supplies for use where there are no qualified physicians and no properly equipped drug stores.

EMERGENCY DISINFECTING PACKAGES.

The following notification issued to all the district health officers in the Philippine Islands is a statement of the purpose of the Bureau to have every municipality supplied with disinfectants for the purpose of combating dangerous communicable diseases as soon as they make their appearance, thus avoiding the embarrassment and the danger of vexatious delays in securing disinfectants after the disease has manifested itself.

The appeal was in the nature of a circular addressed to the district health officers, the substance of which was as follows:

The attention of all district health officers is called to the fact that not infrequently municipalities either have no disinfectants on hand or are very inadequately supplied with the same, so that they are unable to cope with dangerous communicable diseases when they make their appearance.

For this reason the Bureau of Health has an emergency disinfecting package containing the following articles:

4 liters kreso
2 kilos potassium permanganate
1 disinfecting pump.

This package with only one pump will cost ₱10; with two pumps, ₱16, and can be obtained from the Bureau of Health.

It is recommended that all municipalities carry on hand at least one of these emergency disinfecting packages.

The question of ways and means of carrying out the recommendations of this circular is left to your judgment with the request that you will submit a report on the result.

There were 14 of these packages issued during the fiscal year.

SURGICAL RELIEF FOR THE POOR.

The following circular issued to the district health officers is an intimation of the extensive scale on which government charities are carried on in this country. The Honorable, the Secretary of the Interior, has authorized free transportation for indigent cases in the provinces that need hospital treatment.

The circular referred to is as follows:

You are requested to submit as nearly as practicable a list of indigent people in your district who are suffering with chronic curable surgical ailments such as tumors, clubbed hands and feet, hare lip, cleft palate, goiter, squint, hernia, incipient cancer, tuberculosis of bones and joints, obstructive blindness, and other maladies which can be remedied by operative procedure, with the object of making available for such patients as desire to accept them the facilities of the new Philippine General Hospital.

The list should give the names of the afflicted persons and the municipalities in which they reside, and so far as possible, explicit directions for finding them.

Many patients have availed themselves of the benefits of this offer and have come to the hospital for relief.

AMERICAN SANITARY INSPECTORS.

By approval of the Honorable the Secretary of the Interior a system has been put into operation for the promotion of American sanitary inspectors. Under this system inspectors after preliminary temporary appointment to determine their fitness and after passing the examination will be appointed at the rate of ₱1,800 per annum. After one year of satisfactory service they will be promoted to ₱2,000 per annum, after two years' satisfactory service to ₱2,160 per annum, and after three years' satisfactory service to ₱2,280 per annum. Promotions of those now in the service will be made immediately in accordance with their length of service.

RABIES.

A free Pasteur Institute has been established in connection with the Bureau of Science and in cases where the rabid patients can not be brought to Manila, the treatment plainly labeled for each of the twenty-five days over which it extends, is sent to the provinces to be administered by the nearest available physician.

Medical officers have been instructed to send in all dogs, alive when practicable, that are believed to be afflicted with rabies. If they can not be sent in alive they are to be killed and the brain sent in glycerine to the Bureau of Science in order that the presence of Negri bodies may be determined.

There were 54 cases treated by the Bureau of Science during the period covered by this report.

One case of human rabies was treated at the San Lazaro Hospital. The diagnosis was confirmed by the laboratory upon post-mortem examination and animal inoculation. Several cases of human rabies have been reported from the provinces upon reliable information. However, the diagnoses were not confirmed by laboratory methods.

TIENDAS.

There has been notable improvement in the sanitary conditions of tiendas during the last few years. These little stores, of which there are about three thousand in Manila, are really the local markets and are a great convenience to the people. No purchase is too small to be ignored. For the greater part they are kept by Chinese who know that a hundred centavos make a peso and pay more attention to the one which they have not than to the ninety and nine which they have safely in their possession.

The license requirements of these little stores have been gradually increased in the interest of the public health until they are not a source of danger as they were in the earlier cholera outbreaks since American occupation.

Cooked foods are protected from flies and from handling which formerly constituted a grave source of danger.

THE PAIL-CONSERVANCY SYSTEM.

Since the new sewer system has been in operation, the importance of Manila's well-managed pail-conservancy system has lessened but it is still useful in remote barrios and locations where sewer extensions have not been made and for emergency service.

Several of the smaller municipalities have adopted the system with success. No success has yet attended the proposed system of utilizing the waste for the fertilizing of mulberry trees for silkworm culture as advocated by the Director of Health in his report two years ago.

ESTEROS AND UNDRAINED LANDS.

The status of the esteros in Manila was taken up by a committee, of which the president of the Municipal Board was chairman and the superintendent of water supply and sewers secretary. Through the efforts of this committee the ownership of the esteros has been decided by an agreement between the Municipal Board and the Secretary of Commerce and Police, which concedes them to the city of Manila.

The concluding recommendations of this committee were to the effect:

1. That all lands at an elevation below 11.50 meters, city datum, (10 meters being mean low tide), are swampy and overflowed during the rainy season.

2. That if the low lands were raised to elevation 11.50 meters above the city datum, they could be drained and made habitable.

3. That there are barrios which are so insanitary as to make it unadvisable that they should continue to be occupied for residential purposes until they are drained or filled in, which embrace about 6,900,000 square meters, all of which is below the elevation 11.50 meters city datum; that the filling necessary to raise these to elevation of 11.50 meters is about 4,500,000 cubic meters; and that all low lands in the city should be filled in before any of the foreshore or beach is reclaimed.

4. That streets and alleys be cut through the congested and insanitary areas and that new sanitary areas be provided for nipa-house dwellers in places where they can be made sanitary.

CITY MARKETS.

The attention of the committee was called to the insanitary conditions existing on Tondo beach, due to the fact that various products, especially fish, were being sold on the beach. Mr. J. C. Mehan, chief of the department of sanitation and transportation, was called in by the committee in an advisory capacity, and after considerable study, the committee decided to recommend to the Municipal Board that a

market be built in the vicinity of Pretil Bridge, and that on the completion of that market no traffic in fish or any other products be allowed on the Tondo beach.

Mr. Mehan also called attention to the Sangleyes Market as being one of prime importance as many of the market products sold in the Arranque Market are brought from the country through the Cementerio del Norte, and that all these products are carried now to the Arranque Market and then back again by the consumers to the vicinity of the San Lazaro Estate, and that by the construction of the Sangleyes Market such double transit through the city and hardship to the consumers would be avoided.

On August 12, 1909, the Municipal Board informed the committee that the Board had decided to purchase land and erect a market on the Canal de la Reina, as recommended by the committee in its resolution of July 12, and that plans and estimates were being prepared for this market.

A new market building is being constructed at the corner of Calle Looban and Calle Herran, to take the place of the Herran Market, which will be abandoned. The new market building will be a reinforced-concrete structure, 229 feet long and 91 feet wide, so planned as to be capable of indefinite longitudinal extension.

The market tables are to be of concrete which will make it easy to clean them. The number of stalls will be 500 to begin with and they will be used exclusively for the sale of food products.

The Paco Estero, on which the new market is situated, is being walled and stone terraced steps are being constructed leading from the water to the market. Small boats from the surrounding country will bring produce directly to the market through the Pasig River and the Paco Estero, thus avoiding transshipment or hauling and the necessary delays which would occur.

LOW LANDS.

The improvement of low lands has always been a difficult problem owing to the expense involved in filling in to the required building level. Some progress has been made in Manila and a beginning in this direction has been made in the provinces, especially in Surigao. The value of land is increasing in nearly all the larger provincial capitals.

There is much work to be done in the future, along this line, throughout the entire Archipelago.

The belated report of the committee appointed by the Governor-General to look into the matter of the sanitation of the low districts of the city has been filed with the Governor-General.

This committee was presided over by Felix M. Roxas, the alcalde, and commenced its work in the latter part of 1909, several months after

the agitation for the better sanitation of the city had been started as a result of the outbreak of cholera in the city in September, 1908.

Both the Manila Merchants' Association and the Philippine Chamber of Commerce set to work to urge prompt action and a sanitary committee was appointed to make recommendations.

Its report is as follows:

On December 29, 1909, a communication was received from the Philippine Chamber of Commerce in which they endorsed unconditionally the work laid out for this committee and recommended that the work on the swampy land and drainage of the low land belonging to poor people be done at the cost of the Calamity Fund. They further recommended that all the land be divided into small parcels for the purpose of letting contracts so that many contractors could bid on the improvements proposed to be made on the same.

Communications were received from the Legarda Estate and the La Mitra property agents informing the committee that land necessary for streets in the proposed sanitary barrios would be ceded to the city free of charge subject to certain conditions.

At the first meeting it was brought out that several maps existed in the several departments of the government giving different kinds of information regarding the city and its environs. These maps were all combined in one map by the department of engineering and public works. On account of the level character of the topography of Manila, contour lines showing elevations for every six inches of elevation were drawn on this map.

Maps of the following barrios were also prepared: the Legarda Estate barrio, Vito Cruz barrio, and Santa Ana district.

The committee visited several insanitary barrios in the districts of Tondo, Santa Clara, Ermita, and Malate, and found the conditions very bad. The committee then visited a specimen barrio on the San Lazaro Estate where the same class of houses were built of practically the same materials and where the sanitation and health conditions were better. As a result, the sanitary barrio problem was taken up first.

The conditions as found in the insanitary barrios by the committee are described in the report as follows:

One of the greatest difficulties in keeping these barrios in a sanitary condition was the fact that no system or order seemed to prevail in the construction of the houses. It seemed to be the tendency to crowd in as many houses on one lot as possible, without giving the sun a chance to penetrate into the alleys between the houses. In many instances, the openings between houses were not more than 18 inches wide. The drainage was very poor, with pools of stagnant water standing near and under the houses. The question arose where to settle the people who were to be removed from these barrios. The committee visited several

available sites and decided that the grounds of the Legarda Estate were admirably situated for that purpose, as they were at a considerable distance from the more expensive grounds of the city; they were at a sufficient elevation to be drained easily, and the ground could be rented at a reasonable price, inasmuch as it was mostly grass fields.

Negotiations were entered into by the Municipal Board with the Legarda Estate, and the necessary streets were ceded to the city free of charge. The city immediately laid out these streets, installed water mains, so that the neighborhood could conveniently get a wholesome supply of water, built drainage ditches, and laid out the land into proper sized city lots to be occupied by the nipa houses. This, however, took care of only a part of the people that were to be moved, and other available sites were looked for with the result that the Santa Clara Estate, the Mitra Estate, and the Santa Ana barrio were recommended for development.

As before mentioned, one of the main reasons for the insanitary condition of the barrios was the fact that the houses were so crowded together that the sun and air could not reach most of these shacks, and the committee unanimously agreed that one of the causes leading to the insanitary conditions in the old barrios was the construction of houses interior to the street and made the recommendation that no permit for the erection of a structure intended for, or liable to be used as, a human habitation should be granted unless such structure abuts or faces upon a public street or alley which has been officially approved, and recommended that this recommendation be forwarded to the Municipal Board.

The Municipal Board then drew up an ordinance to the effect that no permits for buildings would be granted unless the above conditions were complied with. The question of the legality of this ordinance was raised by the city attorney on the ground that such action would be virtually depriving the owner of the land of the right of disposing of it as he saw fit without due process of law. The matter was referred to the Attorney-General who rendered an opinion upholding the legality of the ordinance.

Tondo Beach.—On studying the available grounds for sanitary barrios, considerable discussion was had upon a scheme of reclaiming a tract of land of the Tondo beach, of an area of approximately half a million square meters. It was, however, the sense of the committee that it would be advisable to consider the filling in of low grounds now in an insanitary condition before taking up the problem of reclaiming more land on the foreshore.

Vito Cruz barrio.—A number of objections have been raised to the establishment of the Vito Cruz barrio inasmuch as it is on the path of the construction of strong material houses and is within that part of Manila which is at present enjoying the greatest amount of construction of the higher class of residences as it seemed undesirable to insert a nipa

barrio in the middle of a highly developed residential district, and it was suggested that a sanitary barrio be established in Santa Ana along the McKinley Road, inasmuch as it is high and dry and near the road, near the street-car line, and near the river, thus affording good communication with the city.

It was, however, the sense of the committee that the projected barrio of Vito Cruz be recommended, and the following resolution was passed:

Resolved, That the plan of the city engineer covering the Vito Cruz sanitary barrio be approved, subject to an arrangement with the owners that lots be leased in not larger dimensions than 12 by 17½ meters, and that the plan submitted by the city engineer covering the prospective barrio of Santa Ana be approved.

The committee expressed it as its opinion, however, that the land in that district is too expensive for a sanitary barrio, but if the owners wish to rent the same for that purpose, they see no reason for any objection. The committee also took up the question as to whether a street should run along the city line in Santa Ana, and was of the opinion that it was not a desirable feature.

Sampaloc barrio, Legarda Estate.—The map of the sanitary barrio of Sampaloc was presented at the meeting of the committee held December 29, 1909, after having received the approval of the Consulting Architect, and the committee was informed that the land for the streets had been deeded to the city by Mr. Legarda and the streets were already monumented.

A motion was made that recommendation be made to the Governor-General that he request the Municipal Board to instruct the city engineer to expedite the opening and expropriation of lands for street purposes and the construction of streets, forthwith; that the Tondo district is a menace to the entire city of Manila, and that until this work is done, even the sanitary barrios will be useless. This motion was carried unanimously.

THE BUREAU OF HEALTH CARNIVAL EXHIBIT.

The exhibit of the Bureau of Health was appropriately placed next to the exhibit of the Bureau of Agriculture, the two booths having a common entrance.

Health and Agriculture vitally concern the Filipino people and constitute the basis of their future prosperity. If between Health and Agriculture there be inserted Education, a trinity of factors is presented upon which depends the evolutional development of the race. Health is given first place because no nation or people can attain to the highest success without the blessing of health.

The purpose of the Bureau of Health exhibit was to illustrate, in a simple way, the possibilities of health culture as the Bureau of Agriculture showed the possibilities of the soil under proper cultivation.

The first exhibit after passing through the entrance was a miniature model nipa house having sleeping porches, perfectly ventilated rooms, cement drain for yard, sanitary kitchen, and sanitary appointments. If nipa houses are properly constructed they are the most sanitary houses that can be built.

The next exhibit in the aisle was a model of Santa Monica barrio, Tondo, showing the haphazard arrangement of the houses with reference to alignment and street lines; their crowding together like dwarfed trees in a jungle, and the insanitary, imperfectly drained ground-space that can never be kept clean.

The third exhibit showed Santa Monica barrio as it will appear when it is made a sanitary barrio. The difference between an ordinary barrio and a sanitary barrio is the difference between order and chaos.

The sanitary barrio system requires that each house front either on a street or an alley. If there be no alleys they are made. This necessitates the destruction of some houses and the removal of others so that there may be perfect alignment and free ventilation. The ground space is drained and cross-drained until it is dry. All hidden places are uncovered so that the interspaces are accessible to the health-giving rays of the sun and to unobstructed uncontaminated currents of air. With model houses erected in sanitary barrios, former pest holes of Manila will become veritable health resorts.

The fourth exhibit showed the septic vault system, with its filtering and absorbing compartments, which was devised a few years ago by a British engineer and put into operation in certain parts of England. This system has been successfully used in Manila and is the next best thing to the modern sanitary sewer.

The fifth exhibit showed a municipal filter system and graphically illustrated how water is rendered pure by underground percolation.

The sixth exhibit was that of a mountain barrio showing the difference, with reference to purity, between surface water and artesian-well water. The miniature old-fashioned well and the artesian-well, being exact in structure, showed how impossible it is to keep the one from becoming contaminated and how well protected is the other. One of the principal disadvantages of provincial life has been the water supply. This has been overcome by deep artesian wells.

The seventh exhibit was a model of a provincial dry-earth closet designed to replace the insanitary structures that time will doom to destruction without a single protest.

On the two sides of the aisle were arranged large shelves on which were placed various exhibits. Beginning with the left-hand side there was a graphic representation by test tubes and drawings of the nutritive values of different native foods and their relative cost. This exhibit while probably not understood by all the visitors was one of the most

instructive and scientific displays of the Carnival. Supplementing this exhibit were artistically prepared charts illustrating cheap balanced rations for each day of the week with suggestions for appropriate daily variations.

The second shelf exhibit consisted of samples of polished and unpolished rice, thus teaching a lesson with regard to beriberi. It is now known that eaters of polished rice frequently have beriberi and that the substitution of unpolished for polished rice causes the disease to disappear. It is believed that beriberic mothers impart the disease, which is very fatal to nursing infants, through the milk. The remedy is to withdraw the infant from the breast, and substitute artificial feeding until the mother can be cured by proper food. In all Government institutions polished rice is forbidden and its importation may be the subject of legal restriction by the next Legislature. Beriberi is no longer a disease in institutions where unpolished rice is used. It has been entirely eradicated from Bilibid Prison, Iwahig penal colony, Culion leper colony, the San Lazaro Hospitals, and the tuberculosis camps of the Bureau of Health.

Next to the beriberi exhibit were a number of glass jars showing mosquito-breeding processes and how the larvæ could be destroyed by petroleum. This exhibit showed miniature beds with sleepers protected and unprotected from mosquitoes, and was supplemented by charts showing the mosquito in action, thus illustrating how malaria and other mosquito-borne diseases are transmitted. The different phases or cycles of the life of the mosquito were fully explained by charts which also set forth the names of the diseases for which the mosquito can be blamed.

When it is remembered that malaria, dengue, yellow fever, and filariasis are conveyed by mosquitoes the importance of instruction along this line will be recognized.

After the mosquito exhibit came the fly-breeding exhibit which consisted of jars of stable refuse in which flies were being incubated and hatched.

Flies are the enemies of sanitation. They may carry the germs of cholera, dysentery, typhoid, and nearly all intestinal diseases and undoubtedly have a part in the dissemination of tuberculosis, pneumonia, and other dangerous communicable diseases, all of which was forcibly impressed on the public by the charts accompanying this exhibit. May the time soon came when the fly will be in as bad repute as the bedbug.

Near the rear of the booth was the milk exhibit which consisted of a collection of milk containers varying from the bamboo joint to the impervious galvanized-metal can with tight-fitting top which is now required by the Bureau of Health.

Analyses setting forth the improvement of the milk supply under the new sanitary regulations were displayed in chart form. The exhibit

was supplemented by photographs showing the *before* and the *after* of the milk business in Manila and the difficulties which confront the Bureau of Health in its campaign for pure milk and healthy babies.

On the right-hand side of the entrance to the booth between the passage way to the booth of the Bureau of Agriculture and the doorway was arranged a series of pictures portraying cholera and tuberculosis. The cholera exhibit consisted of two pictures, the first showed a family eating out of a common dish with their fingers and illustrated how the disease is frequently conveyed, while the second showed a family that used knives, forks, and spoons thus avoiding contamination of food by soiled fingers. Some one has said "no house, no tuberculosis." It might be said with equal truth, so far as the Philippine Islands are concerned, *no fingers, no cholera.*

Side by side with the cholera pictures was a series of three pictures, with the following significations:

1. A father with consumption coughing and spitting on the floor; an only child crawling on the sputum-soiled floor.

2. The sickness and death of the child from tuberculosis.

3. The burial of the little one and the sadness of the heart-broken mother and the death-doomed father in their childless home from which the last ray of hope had departed.

American and Filipino employees were present during Carnival hours to explain the significance of the exhibits and charts and to emphasize the warning "DON'T SPIT."

Besides the Carnival exhibit the Bureau of Health had over a hundred employees in the grand parade on the opening day. One of the most interesting features of the parade was a large decorated automobile truck on which were seated the pupils of the Training School for Nurses of the Philippine General Hospital, in uniform, followed by about seventy uniformed Filipino sanitary inspectors marching in the procession.

BOAT POPULATION.

Manila like other Oriental cities has a boat population that is separate and apart from the people of the city. They are continually shifting from one place to another with their boat homes and have to be dealt with separately in sanitary matters. These people belong to the poorer class and are not careful of their food and water which fact makes them a floating menace during epidemics of dangerous communicable diseases. There is one saving feature and that is they do not mingle much with the shore people. Their boats are their homes and their social life does not appreciably extend beyond their own kind, except when they go to the cockpits to try their luck with their fighting chickens, which, too, are water dwellers.

In vaccination, inspections or other sanitary measures, they form a district by themselves.

The number of river dwellers in Manila has been estimated as high as 15,000 but it is probable that one-half of this number would be more accurate.

THE PHILIPPINE ISLANDS ANTITUBERCULOSIS SOCIETY.

The Philippine Islands Antituberculosis Society was organized in Manila on July 29, 1910. The Hon. Jacob M. Dickinson, then Secretary of War, was present and was the first to apply for life membership.

The society engaged principally in publicity and educational work until April 1, 1911, when it took over the San Juan Tuberculosis Sanitarium, which had been previously established by the Bureau of Health. On June 1, 1911, the society established five free dispensaries in Manila. The locations of these dispensaries are as follows: Rizal Avenue, No. 542; Calle Barcelona No. 83, San Nicolas; Calle Trece de Agosto No. 39, Paco; Plaza Leon XIII, Tondo; and Calle G. Tuason No. 35, Sampaloc. All of the medical supplies for the sanitarium and free dispensaries, the resident physician at San Juan, and some of the nursing staff are furnished by the Bureau of Health. On June 30, 1911, there were 47 patients in the sanitarium at San Juan, and on the same day 102 patients were treated in the free dispensaries of the society and 145 prescriptions filled.

Branch societies have been organized at Iloilo, Cebu, Zamboanga, and Dumaguete.

The president of the general society is Mrs. Martin Egan, Dr. Olivia Salamanca, a graduate of the Woman's Medical College of Philadelphia, was elected secretary, but owing to the fact that she contracted the disease herself and is now assigned to Baguio, Mr. D. W. Yancey is acting secretary-treasurer.

The motto of the society is "No tuberculosis in the Philippines in 1920."

NEW AMBULANCE SERVICE.

Both the new Philippine General Hospital and the San Lazaro Hospitals division have an electric ambulance service. Formerly all ambulances and other transportation used by the Bureau of Health were kept at the city stables; a part of the department of sanitation and transportation. The facilities of this large and well managed stable contributed largely to the promptness with which dangerous communicable diseases were handled. The service was satisfactory but the day of the old ambulance is past and gone forever in Manila and motor power vehicles have taken their place.

One of the new ambulances is stationed temporarily at the central office of the Bureau. It will be transferred to the Philippine General Hospital as soon as the approaches to the hospital garage are finished. The other ambulance is stationed at San Lazaro Hospital and is used exclusively for dangerous communicable diseases.

Much of the antipathy of the Filipino people against ambulances has disappeared since the new service was put into operation.

Ambulance attendants, who are all Filipinos, are uniformed as sanitary inspectors and are required to observe the strictest decorum in their dealing with the people. So far there have been very few complaints.

CEMETERIES.

The cemetery troubles which encompassed the Bureau of Health and the clergy of the Philippines have disappeared and the administration of Act 1458 rarely causes a ripple on the surface of official duty. Cemeteries are opened and others are closed without a protest.

During the year, about 400 cemetery applications have been acted upon in addition to the routine administrative work.

The most difficult problem is to find suitable land for cemetery property. The law requires that graves be dug 5 feet deep. It is not uncommon for graves to be flooded before this depth is reached, especially during the rainy season.

In Spanish times, the cemeteries with very few exceptions were under control of the Roman Catholic Churches which in turn were closely associated with the Government, which vouchsafed for them the facilities for proper terrepleining and walling. Some of the most interesting places in the Philippines are the old Catholic cemeteries with their solid walls and massive gates standing in their strength and majesty as guards of the silent graves.

MORGUES.

There are three morgues in the city: the one that is conducted in connection with the College of Medicine and Surgery of the University of the Philippines, known as the Herran Morgue; the San Lazaro Morgue for dangerous communicable diseases, run in connection with the San Lazaro Hospitals division; and the Military Morgue.

Much of the antipathy felt by the Filipino people against morgues is disappearing. During the year there have probably been twenty-five bodies sent to the Herran Morgue at the request of relatives of the deceased persons. This is regarded as a hopeful sign that some impression is being made on the prejudices and superstitions that for so many years have opposed the application of modern sanitary principles in the Philippines.

IMMIGRANTS.

Immigrants are examined by the medical officers of the United States Public Health and Marine-Hospital Service. The percentage of rejections was about 0.77 per cent, due mostly to trachoma. Immigrants arriving at Manila are subjected to rigid examination and scrutiny and kept in quarantine sufficient time to make thorough tests for the presence of dangerous communicable diseases.

LEGISLATION.

The following Acts and ordinances pertaining directly or indirectly to public health have been passed during the fiscal year:

Act No. 1196.—This Act pertains to the admission of students from Nueva Vizcaya, Agusan, the Mountain Province, and the Moro Province and in substance is as follows:

"The Director of Health is hereby authorized to admit to the classes for the instruction and training of male and female nurses provided for in Act Numbered One thousand nine hundred and seventy-five, students from Nueva Vizcaya, Agusan, the Mountain Province, and the Moro Province, subject to the conditions prescribed in said Act: *Provided*, That applicants shall be eligible to admission after giving evidence by examination, or in any other manner satisfactory to the Director of Health, that they have received sufficient preliminary training to qualify them advantageously to enter upon such course of study.

"The number of students selected under the provisions of this Act shall not exceed four each year of each sex, nor twelve in all of each sex; and these numbers shall be in addition to the numbers authorized in Act Numbered One thousand nine hundred and seventy-five."

Act No. 2009.—This Act provides that the municipality of Cebu may issue bonds for the purpose of constructing a modern sewer and water system. Work on the sewer system is now in progress.

Act No. 2025 "appropriates the sum of twenty thousand pesos, out of any funds in the Insular Treasury not otherwise appropriated, to carry out the purposes of Act Numbered Nineteen hundred and seventy-five of the Philippine Legislature. The Director of Health may expend said sum for the maintenance of the classes authorized by said Act Numbered Nineteen hundred and seventy-five and for all other purposes related therewith as he shall deem necessary."

Act No. 2032.—This Act appropriates, out of any funds in the Insular Treasury not otherwise appropriated, to contribute to the support of charitable institutions, as follows:

"For the campaign for the extermination of tuberculosis, by the Philippine Islands Anti-Tuberculosis Society, fifty thousand pesos; for the protection of infants, through the institution 'La Gota de Leche,' twelve thousand pesos; for the Mary Johnston Hospital, twelve thousand pesos. Total, seventy-four thousand pesos."

Act No. 2047.—This Act provides funds for the travel and subsistence expenses of the delegates to the International Tuberculosis Congress to be held at Rome, Italy, and amends Act 2042 which was passed for the same purpose.

Under the provisions of this Act Dr. Vicente de Jesus and Mrs. Martin Egan were named by His Excellency the Governor-General as delegates, the former representing the Bureau of Health and the latter the Philippine Islands Anti-Tuberculosis Society.

Manila City Ordinance No. 139.—This ordinance amends sections 32 and 236 of the Revised Ordinances of the City of Manila by requiring that all buildings erected in the city of Manila shall further conform to the requirements of title 11 of Ordinance No. 139. All buildings containing plumbing or plumbing fixtures shall conform to the requirements of chapter 12 of the said ordinance. No building or addition to any building shall be constructed in the city of Manila nor shall any permit or authority be granted for the construction of such building or structure until the Director of Health shall have approved in writing the ground site thereof.

"Courtyards and light wells shall be measured in the clear of all projections

into them with the exception of roof leaders, wall coping, sills, or fire escapes not exceeding one and twenty one-hundredths meters in width. The minimum size of a court for a one-story building shall be six square meters; for a two-story building, nine square meters; for a three-story building, twelve square meters; and for a four-story building, twenty square meters. No court, court-yard, or light well shall be less than two meters in width for a one or two story building nor less than three meters in width for a three or four story building.

"No cubicle or room shall be constructed or maintained in a building intended for human habitation unless such cubicle or room is provided with a window or windows or a skylight having a total area of not less than one-tenth of the floor area of such cubicle or room and opening directly into the external air. For the purpose of this section the words 'opening directly into the external air' shall be construed and held to mean:

"(*a*) Opening on to any public street, public alley, or navigable water course.

"(*b*) Opening on to any yard, courtyard, or into any light well or vent shaft of the dimensions specified in section two hundred and twenty-nine of the Revised Ordinances of the City of Manila, as amended by this ordinance. The said yard, courtyard, light well, or vent shaft shall pertain to and form a part of the premises upon which the building is erected.

"(*c*) Opening on to the external air by means of skylights of which the unobstructed air space above and surrounding the aperture of such skylights shall not be less than that specified for courtyards of light wells in section two hundred and twenty-nine of the Revised Ordinances of the City of Manila, as amended by this ordinance."

Manila City Ordinance No. 140.—This ordinance appropriates the sum of ₱20,000 out of any funds in the Insular Treasury transferred to the city of Manila, as provided by Act No. 1765 of the Philippine Commission, and made available for expenditure for the purchase of a site for a public market in the district of Tondo, and for the removal of the Herran Market building from its present site on Calle Herran, district of Malate, and the reconstruction of the said market building on the new site in the district of Tondo.

ADMINISTRATION OF THE FOOD AND DRUGS ACT.

Pursuant to section 11 of Act No. 1655, which prescribes that the Insular Collector of Customs shall deliver to the Director of Health, upon his request from time to time, samples of food and drugs which are being imported into the Philippine Islands, there has been conducted a regular examination of all consignments that have entered the port.

A circular was issued on January 9, 1911, by the Insular Collector of Customs, at the request of this office, as follows:

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
BUREAU OF CUSTOMS.

CUSTOMS ADMINISTRATIVE CIRCULAR.

MANILA, *January 9, 1911.*

No. 628.—*Requirements with regard to meat and meat-food products imported after February 1, 1911.*

PARAGRAPH I. The attention of importers of meats and meat-food products is invited to the requirements of the Food and Drugs Act, which will be enforced on and after February 1, 1911, as contained in the following circular issued by the Director of Health:

"Attention is called to regulation 31 of the Food and Drugs Act, which reads as follows:

"(*a*) Meat and meat-food products imported into the Philippine Islands shall be accompanied by a certificate of official inspection of a character to satisfy the Director of Health that they are not dangerous to health, and each package of such articles shall bear a label which shall identify it as covered by the certificate, which certificate shall accompany or be attached to the invoice on which entry is made.

"(*b*) The certificate shall set forth the official position of the inspector and the character of the inspection.

"(*c*) Meat and meat-food products as well as all other food and drug products of a kind forbidden entry into or forbidden to be sold or restricted in sale in the country in which made or from which exported, will be refused admission.

"Administrative decision (F. I. D. No. 74) of the Bureau of Health gives the governmental interpretation of the scope of this regulation.

"It is provided that no meat or meat-food product shall be imported unless accompanied by a certificate of competent veterinary ante and post-mortem inspection.

"A label of identification shall be attached to each package of meat or meat-food products.

"No substance which lessens its wholesomeness, nor no drug, chemical or harmful dye, or preservative other than common salt, sugar, wood-smoke, vinegar, pure spices and salt peter, may be added to meat or meat-food products.

"Meat and meat-food products of horses and dogs are prohibited from entry into the Philippine Islands.

"A meat-food product within the meaning of the regulation is considered to be any article of food intended for human use which is derived or prepared in whole or in part from any edible portion of the carcass of cattle, sheep, swine or goats, if the said edible portion so used is a considerable and definite portion of the finished food. A mixture of which meat is an ingredient will not be considered a meat-food product unless the meat contained therein is a definite and considerable portion of the said mixture. Mixtures such as mince-meat, soups, etc., will not be required to be certified. Products such as meat juice, meat extract, etc., which are intended only for medicinal purposes and are advertised only to the medical profession, will not be considered as meat-food products within the meaning of the aforesaid regulation.

"The following are acceptable forms of certificates:

"(1) I hereby certify that the shipment of ..... (kind of meat) consigned by ..... to ..... and designated by ..... (distinguishing marks) is the product of ..... (kind of animal) which by ante-mortem and post-mortem veterinary inspection were shown to be free from disease and suitable for food, and that the meat has not been treated with chemical preservatives or other foreign substances injurious to health;

"(2) I hereby certify that the meat-product factory of the firm of .... is located in the meat inspection district of the province of .....; that the animals killed in that establishment are subjected to competent official veterinary ante-mortem and post-mortem inspections; that all of the meat sold by that firm is the product of animals free from disease; that all meat and meat-food products of that firm are free from chemical preservatives or other foreign substances injurious to health.

"The authenticity of certificates shall be certified at the port of shipment by

an officer of the United States Public Health and Marine Hospital Service whenever there is one available, and if not, by the United States consul.

"The acceptance of the certificate will not supersede port inspection as to the condition of the shipment on arrival.

"On and after February 1, 1911, the requirements as to meat inspection certificates will be enforced. Shipments of meat and meat-food products unaccompanied by certificates or shipped under certificates which are considered to be insufficient or faulty in any manner will be, as a consequence, prohibited from entry.

"VICTOR G. HEISER, *Director of Health.*"

PAR. II. Philippine customs officers shall give due publicity to the terms of this circular.

H. B. MCCOY,
Insular Collector of Customs.

Considerable difficulty was experienced in getting the shippers to comply with this circular, and it was only after the return of a few shipments that success was attained.

THE BOARD OF FOOD AND DRUG INSPECTION.

The Board of Food and Drug Inspection was appointed by His Excellency the Governor-General, February 11, 1911, in Executive Order No. 7, as follows:

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU.

MANILA, *February 11, 1911.*

EXECUTIVE ORDER
No. 7.

For the purpose of aiding in carrying out the provisions of the Food and Drugs Act, the Assistant Director of Health, the food and drug chemist of the Bureau of Science, the appraiser of the port of the Bureau of Customs at Manila, and the chief city internal-revenue agent, Bureau of Internal Revenue, are appointed members of a board to be known as the Board of Food and Drug Inspection.

The Board is empowered to give hearings on matters concerning the administration of the Food and Drugs Act; it shall hear protests and appeals from decisions and rulings made under Act No. 1655, under section 4 of the Food and Drugs Act; it shall investigate processes of food and drugs manufacture and shall submit a report recommending food and drug standards for adoption under the Food and Drugs Act.

The Board shall further have such functions, properly within the scope of the administration of the Food and Drugs Act, as may be assigned to it by the Director of Health.

The members of the Board hereby appointed shall represent the Directors of their respective Bureaus, and the Assistant Director of Health shall act as chairman. The decisions of the Board shall be advisory to the Director of Health, and shall become final upon approval by the Secretary of the Interior.

W. CAMERON FORBES,
Governor-General.
By THOMAS CARY WELCH,
Acting Executive Secretary.

The Board met as directed by the Governor-General and immediately entered upon its duties.

The food chemist of the Bureau of Science and the chief city internal-revenue agent were appointed a committee to propose certain standards for liquors to the Board and to hear protests concerning proposed standards.

A tentative draft of the principles on which standards are based was prepared and accepted by the Board. The principles as accepted are as follows:

BOARD OF FOOD AND DRUG CONTROL, PHILIPPINE ISLANDS—STANDARDS OF PURITY FOR FOOD PRODUCTS.

[Tentative draft submitted as a basis for suggestion, March 8, 1911.]

Principles on which the standards are based.

The general considerations which have guided the committee in preparing the standards for food products are the following:

1. The standards are expressed in the form of definitions, with or without accompanying specifications of limit in composition.

2. The main classes of foods are defined before the subordinate classes are considered.

3. The definitions are so framed as to exclude from the articles defined, substances not included in the definitions.

4. The definitions include, where possible, those qualities which make the articles described wholesome for human food.

5. A term defined in any of the schedule has the meaning wherever else it is used in these standards.

6. The names of food products herein defined agree, whenever possible, with existing Philippine trade or manufacturing uses; but where such usage is not clearly established or where trade names confuse two or more articles for which specific designations are desirable, preference is given to one of the several trade names applied, or names most clearly defining the character of the product are employed.

7. The standards fixed are such that a departure of the articles to which they apply, above the maximum or below the minimum limit prescribed, is evidence that such articles are of inferior or abnormal quality.

8. The limits fixed as standards are not necessarily the extremes authentically recorded for the article in question, because such extremes are commonly due to abnormal conditions of production and are usually accompanied by marks of inferiority or abnormality readily perceived by the producer or manufacturer.

Definitions.

1. BEVERAGES.

A. *Fermented.*

a. Nondistilled.—Schedule in preparation.

b. Distilled.—Philippine rums. (1) Coco rum, (2) nipa rum, (3) sugar or molasses rum, (4) rums from mixtures of these raw materials, (5) Old ——, rum.

1. Coco rum is the spirit distilled, from the properly fermented sap drawn from the inflorescence of the coconut palm (*Cocos nucifera* L.), from a pot still with or without the employment of a doubler or goose, without the addition of any substance, and shall contain not over 50 per cent (100 proof) alcohol.

2. Nipa rum is the spirit distilled, from the properly fermented sap drawn from the flower stalk of the nipa palm (*Nipa fruticans* Wurmb.), from a pot still with or without a doubler or goose, without the addition of any substance, and shall contain not over 50 per cent (100 proof) alcohol.

3. Sugar or molasses rum is the spirit distilled, from the properly fermented juice of the sugar cane, the massecuite made therefrom, molasses from the massecuite or any intermediate product, from a pot still with or without a doubler or goose, without the addition of any substance, and shall contain not over 50 per cent (100 proof) alcohol.

4. Spirits distilled from the properly fermented mixtures of any of the raw materials and in the same manner heretofore enumerated shall be designated by the corresponding names showing the origin of the beverage, as for example: nipa-sugar rum, or nipa-molasses rum, and shall contain not over 50 per cent (100 proof) alcohol.

5. Old ..... rum. Any of the beverages heretofore enumerated shall be entitled to the prefix *old* after the distillate has been stored for not less than three years in wood and mixed only with pure water at the time of preparation for consumption to reduce the alcoholic content to 50 per cent (100 proof) or below. For example, "Old coco rum," "Old nipa rum," etc.

The native method of refining sugar was investigated by the Bureau of Health, as complaints had been received that it was a noxious trade. It was found that this was not true, but that the methods are more or less crude and together with the surroundings more or less insanitary. A study of this matter will be taken up by the Board.

SANITARY REGULATIONS FOR THE CONTROL OF CIGAR FACTORIES.

Every cigar factory in Manila has its own physician to inspect the employees and to see that the different processes of manufacture and packing conform with the requirements of the Bureau of Health. Every employee has a card on which are written the name of the factory, the name and residence of the employee, the age, sex, and position held. On the back of this card are blanks for the notation of each inspection.

The exportation of Philippine cigars met with so much opposition that it became necessary for the Bureau of Health to become sponsor for the sanitary manufacture of such products.

The following circular, issued October 27, 1910, embodies the principal requirements with regard to the sanitary maintenance of cigar factories in Manila:

REGULATIONS OF THE BUREAU OF HEALTH FOR THE SANITARY CONTROL OF CIGAR FACTORIES.

1. The regulations for the sanitary control of cigar factories manufacturing cigars for export to the United States, promulgated by the Bureau of Health December 2, 1909, and April 1, 1910, are hereby repealed and the following regulations substituted therefor.

2. All the rules and measures at present in force for the sanitary maintenance of houses and shops shall be observed most rigorously, giving special attention to personal cleanliness and to the sweeping and washing of floors and walls, and

also to the collection of garbage and refuse in metal receptacles with well fitted covers. (Section 690 of Revised Ordinances.)

3. The air space in tobacco factories per adult employee shall be a minimum of 6 cubic meters, providing that the window area is one-tenth of the floor space of the room. If the window area is one-fifth of the area of the floor, the minimum may be 5 cubic meters per employee.

4. There shall be installed at some convenient place, approved by the Director of Health, in each factory, washbasins of modern type, arranged in rows, with an abundant supply of water, with proper traps and vents and connected with the sewer. One or more special employees of the factory shall have charge of the cleaning and proper keeping of these washbasins and shall see that each laborer or workman before commencing work shall wash his hands with soap and water. The Bureau of Health may, at its discretion, compel this washing to be done with a disinfecting solution.

5. A sufficient number of modern water-closets, properly trapped and vented, shall be installed for the employees of each sex, and also a washbasin fixture of approved type installed for each three flush closets. The closet for men should be equipped, in addition, with a sufficient number of urinals of modern type approved by the Bureau of Health. One or more special employees shall be in charge of the cleaning and proper keeping of this apparatus and shall see that all employees, male or female, carefully wash their hands upon leaving the closet. Upon request of the factory, such employees, as well as those performing similar duties referred to in paragraph 4, will be given special appointments by the Director of Health as subsanitary inspectors.

6. No restaurant, canteen, dining room, or "carenderia" will be permitted in the interior of the factory except those with first-class sanitary accommodations.

7. All employees, upon original entry into the factory and at least bimonthly thereafter, must satisfactorily pass a medical examination by the physician of the factory and be provided with a health report card (form attached), showing name, age, factory number, sex, occupation, residence, and mother's name, with a space for a bimonthly report of medical examination, to be indicated by the initial of the examining physician with the date of his examination.

No employee shall be admitted to the factory at any time without this card showing him to be free from contagious, infectious or desquamative disease.

This semimonthly inspection shall not prevent the inspection at any time of any or all of the employees, male or female, by a health officer whose decision in matters of disease and sanitation shall be final.

8. The use of cuspidors of smooth and polished surface, to facilitate their cleaning, which must be done at least once every day, shall be compulsory in all factories.

9. Young children, especially nursing children, shall not be permitted to enter any cigar factory.

10. It is absolutely prohibited to use saliva, impure water, the lips, tongue or mouth, or unclean hands, in any operation directly connected with the manufacture or packing of cigars and cigarettes. It is also prohibited to trample or walk or stand on the tobacco for any purpose whatever.

11. All the operations in selection of leaves and the drying and manufacture of cigars and cigarettes, except where necessary in process of manufacture, shall be made upon perfectly dry floors and on dry, clean working tables. The warehouses shall be dry and well provided with air and light. The use of clean mats upon floors and tables, also clean, is permitted.

12. For the purpose of preventing so far as possible the falling to the floor and probable contamination of tobacco leaves and other materials used, work

tables shall be provided with throughs along their edges, of suitable material which shall be kept in a proper state of cleanliness.

13. No article of clothing or part thereof, as skirts, "tapis," handkerchiefs, etc., will be used to wrap or remove from one place to another tobacco or other materials used in the manufacture of cigars and cigarettes.

14. No room, parlor, warehouse, or premises, used as a shop or a part of a cigar factory, shall be used as habitation or sleeping room by any person or persons at any time of day or night.

15. All factories shall be kept open to the inspection of the officers and employees of the Bureau of Health, without previous notice, at the hours fixed for inspection by sections 663 to 665 of the Revised Ordinances. These inspections may be made at hours and days wholly unexpected. in order that the degree of attention which the owners pay to the compliance with these rules may be determined.

In the provinces such deviations are permitted from this circular as are made necessary through the lack of a sewer system and modern closet fixtures.

BARBER SHOPS.

Barber shops are the subject of ordinance regulations by the respective municipalities. In Manila the sanitary requirements are in line with those of the most advanced cities of the United States. The shops are inspected regularly and the license applications are passed on by the Bureau of Health.

Now and then a sanitary revival is necessary lest they forget. Such an awakening took place last January at which time the following circular was issued to the barbers of the city and is now being enforced:

Inspection having shown that certain ordinances of the city of Manila relative to barbering are being violated, your attention is called to chapter 75 of the Revised Ordinances, as follows:

"SEC. 727. Every barber when engaged in any operation of his trade shall wear a clean white shirt or coat, and shall keep his finger nails short and well trimmed, and he shall thoroughly wash and cleanse his hands before operating on any person.

"SEC. 728. Every barber shall thoroughly clean and disinfect every razor, comb, or pair of scissors or clippers, or other tool, and thoroughly wash in hot water or in an approved disinfecting solution, before using the same for operation on any person; shall furnish a clean towel for each customer, and shall apply powder to any person only by means of a fresh and clean towel.

"SEC. 729. No barber shall use a puffball for applying powder to any person, or for any other purpose, nor shall any barber apply any piece of alum, camphor, or other substance used for arresting bleeding to any person which has been previously applied for a like purpose to any other person.

"SEC. 730. Every barber shop shall have ample provisions for boiling water and keeping the same hot."

Attention is called to chapter 86, section 814, of the Revised Ordinances, which provides that anyone who shall violate these ordinances, "shall, upon conviction, be punished by a fine of not more than two hundred pesos or by imprisonment for not more than six months, or by both such fine and imprisonment, in the discretion of the court, for each offense."

BUREAU OF HEALTH MANUAL.

The new manual for 1911 is a book of 309 pages, including the index. In the first manual, published in 1909, the following foreword was published:

> In placing this first edition of the Manual for the Bureau of Health before the officers and employees of the Bureau, every endeavor has been made to have the provisions contained herein accurate, practicable, comprehensive, and consistent with present and probable future conditions. It is realized, however, that a work so extensive and diversified in its scope will be found after actual use to require many changes and alterations. To the end, therefore, that the next edition of the Manual may be as correct as possible, and at the same time comprehensive and complete, it is respectfully requested that all criticisms, changes, additions, or suggestions of any kind which may occur to the officers and employees of the Bureau, be submitted to the Director of Health in writing, whereupon they will be given careful consideration.

All the acceptable changes that were recommended have been incorporated in the new edition, and the index has been expanded and made to conform to the paragraph numbers, which have been extended so as to include the entire manual.

Many suggestions were received that the revision should be made more applicable to the provinces because in the first edition the laws and ordinances published with reference to communicable diseases pertained to Manila only. Each municipality has its own ordinances, hence it would be impracticable to publish a general sanitary ordinance for the provinces. The district health officer of Surigao has been appointed a committee of one and is now engaged in preparing a draft of a provincial sanitary code. From the published laws and ordinances that are in force in Manila it should be possible to select portions that could be adapted to other municipalities and have them enacted in ordinances by the municipalities.

The Manual of the Bureau of Health has been of great service in systematizing the provincial work, and since law books are not readily available for the use of district health officers, they have served as a legal guide.

In the preface to the second edition will be found the following paragraph, which is indicative of the general policy of the Bureau:

> In dealing with the officials and with the people, regardless of their station in life, all employees of the Bureau of Health are enjoined by this Office to exercise tact, perseverance, courtesy, and good nature so as to command their friendship and respect. Energy and earnestness of purpose are powerful factors in the promotion of confidence, while idleness and indifference bring about distrust and opposition, hence employees of the Bureau of Health are expected to be energetic and alert and to exercise initiative ability in planning their work. If this is done the cause of sanitation in the Philippine Islands will go forward to success and discord and discontent will give way to confidence and coöperation.

BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners consists of Dr. Isidoro de Santos, president, and Dr. A. P. Goff, member and acting secretary-treasurer, Dr. Pond having resigned her position as secretary-treasurer.

The Board held the usual examinations during the year, and met from time to time as necessary.

Registrations were made as follows:

Doctors of medicine	19
Licentiates of medicine	21
Cirujanos ministrante	18
Midwives	5
Total	63

The following table shows the amount deposited in the Treasury:

Doctors of medicine, 19, at ₱30	₱570
Licentiates of medicine, 21, at ₱30	630
Cirujanos ministrante, 18, at ₱10	180
Midwives, 5, at ₱10	50
Total	1,430

The expenditures were as follows:

Examination fees to Doctor Santos at rates specified in Act 310	₱186
Salary to Doctor Pond for nine months	300
Total	486

BOARD OF PHARMACEUTICAL EXAMINERS.

The Board has held two examinations, the first on July 5, 1910, at which 26 applicants were present, and the second on January 3, 1911, at which 21 applicants were present, making in all 47 applicants for the year. Not a single applicant attained the required average to receive a certificate.

There were issued during the year 110 apprentice certificates, and 6 Chinese druggist certificates, without examination.

There was collected during the year from all sources the sum of ₱1,220. Of this amount ₱380 were examination fees for the examination to be held on July 5, 1911.

The Treasurer's receipts were	₱1,220

The disbursements were:

Salary, secretary-treasurer	₱300	
Fees for two members for 26 applicants for the examination held on July 5, 1910, at ₱4.00 each	208	
Fees for two members for 21 applicants for the examination held on January 3, 1911, at ₱4.00 each	168	
Total		676
Receipts over disbursements		544

The Board of Pharmaceutical Examiners is composed of Mr. Hugo Salazar, president; Mr. Andrés Garcia, member; and Mr. Rafael Lopez, secretary-treasurer.

BOARD OF DENTAL EXAMINERS.

The following extract is taken from the report of the secretary-treasurer of the Board of Dental Examiners for the Philippine Islands:

The Board is composed of the following members: A. R. Preston, president; L. C. O'Donnell, secretary-treasurer; A. Vergel de Dios, member.

There were 13 applicants examined in July, 1910, and certificates as undergraduates issued to them. Twelve were examined in January, 1911, and 9 undergraduate certificates issued. A total of 25 applicants and 22 undergraduate certificates issued.

DENTAL CLINICS.

The free dental clinics established by Doctor Ottofy May 1, 1905, are still being conducted. At present clinics are conducted at St. Paul's Hospital, Bilibid Prison, University Hospital, Girls' Orphanage, School for the Deaf and Blind, House of the Holy Child, and Paco Intermediate School. A fee sufficient to cover the cost of material is accepted from those who are able to pay, and in this manner the system of clinics is maintained.

PHILIPPINE TRAINING SCHOOL FOR NURSES.

The number of pupils enrolled during the year was: Senior class, 21 females; intermediate class, 10 males, 14 females; junior class, 23 males, 28 females; preliminary class, 5 males, 6 females; total 107.

There were six graduates from the school, five of whom are now employed as nurses by the Bureau of Health, one having returned to her native town, where she expects to open a private hospital.

The Training School made a splendid record at the time the unfortunate victims of the Taal disaster were in the care of the Philippine General Hospital.

At the time of the calamity the wards which were open were full, and it was necessary to equip several new wards very hastily. This was entered into very heartily by the pupil nurses, and in the course of a few hours all the new wards were in readiness to receive the injured.

Seventy-seven victims of the calamity were admitted to the hospital in the course of a few days, making it necessary to double the hours of work of the nurses immediately. The nurses did this additional work without a murmur, and many of them asked to have their hours of duty increased.

The majority of the victims were very seriously burned and the tender care and the skillful nursing of these young nurses contributed in a great measure to their ultimate recovery.

It is considered that this episode was invaluable to the pupils, not only in the experience gained in the care of burns of all degrees, but also in developing the true spirit of public service for the common good, which is of course the final aim of all their training.

Mrs. Eleanor U. Snodgrass, the first superintendent of the Philippine Training School for Nurses, was ill from December 1, 1910, until her death at the Philippine General Hospital, April 20, 1911. Mrs. Snodgrass was especially adapted for the work in which she was engaged and her untimely death was a profund loss to the school and the hospital. During her illness the school was conducted by Miss Margaret Wheeler. After the death of Mrs. Snodgrass Miss Elsie P. McCloskey was appointed superintendent of the school.

PHYSICAL EXAMINATIONS.

During the year 527 physical examinations were made of persons desiring to take civil service examinations or to enter the Philippine General Hospital Male Training School.

Upon the suggestion of the Bureau of Civil Service, the medical inspector in charge of the examinations has not rejected applicants on account of physical disabilities but has noted such defects on the examination blank, leaving their rejection or acceptance to the Director of Civil Service.

The following is a classified list of the examinations made:

Position.	Number examined.	Position.	Number examined.
First-class patrolman	60	Customs guard	2
Third-class patrolman	71	Cadet, West Point	1
First-class prison guard	26	Junior surveyor	8
Second-class prison guard	48	Third lieutenant, Constabulary	4
First-class fireman	54	Hospital attendant	2
Second-class fireman	19	Clerk	4
First grade, unclassified	4	Physician	1
Second grade, unclassified	9	Bookkeeper	2
Third grade, unclassified	196	Municipal treasurer	1
Machinist	1	Male nurse	6
Mail carrier	1		
Messenger	2	Total	527

Number of Americans and other Europeans examined	151
Number of Filipinos examined	376

OVERCROWDING.

One of the most difficult problems that confronts the Bureau of Health is that of how to remedy the condition of overcrowding. This condition exists in a dual manner, involving not only the occupying of houses by too many people, but the crowding together of buildings on restricted areas. The people who own the land do not desire to sell it, hence in the majority of cases the land is owned by one person and the house by another. The landlord in his greediness to get as much from his land as possible, before he was restricted by law, and even now in some of the

provincial municipalities, permitted the erection of houses and shacks wherever there was space for them regardless of ventilation and street lines. Many of these places have been improved by the application of the sanitary barrio plan.

In the present circumstances little can be done to remedy the condition of overcrowding. If the people are driven out of one place they go elsewhere and overcrowd another place.

It is necessary that the laboring men should live near their work as their salaries are too low to permit of their patronizing the street cars or other public conveyances.

The condition of overcrowding in houses assumes different importance in light-material districts as compared with the old Spanish type of houses.

The old house of solid masonry retains its dampness. The nipa house soon becomes dry. The well ventilated nipa houses are less liable to harbor germs of disease since they are exposed to the dessicating air currents and to the germ-killing power of sunlight.

Overcrowding is a foe to health and if it were not for the nipa house in the Philippine Islands, the detrimental effects of this condition would be more apparent.

The Sanitary Code of Manila specifies the number of cubic feet of air space that shall be contained in a room for each adult and child.

There are not enough houses in Manila to shelter the people and so long as the present industrial conditions prevail there is very little to do more than to correct the conditions wherever possible in the best way that presents itself.

The task of attempting to license all buildings in Manila which come within the classification of "tenement houses" was commenced in June 1909, in the office of the Assistant Director of Health.

The purpose of classifying tenement houses is to prevent overcrowding and to separate them from boarding houses.

Tenement houses include every house, building, or a portion thereof which is rented, leased, let, or hired out to be occupied as the house, home, or residence of five or more families living independently of one another and doing their cooking upon the premises, or by more than three families on a floor so living and cooking but having a common right in the halls, stairways, water-closets, or privies or some of them.

It is unlawful for any person to conduct a tenement, lodging house, or hotel in the city of Manila, without first obtaining a license approved by the Director of Health, which shall specify the number of persons permitted to lodge or dwell in said tenement, lodging house, or hotel, and shall always be displayed in a conspicuous position on said premises; and no person shall have, lease, rent, or keep such tenement, lodging house, or hotel except in accordance with the terms and conditions of

said license. The medical inspectors are required to report the number of rooms and the number of people who can legally sleep in each. He advises whether or not repairs are necessary to place the house in a sanitary condition and if repairs are found necessary, he furnishes a list of the same and recommends approval or disapproval, keeping in view the constant aim of segregating the family and providing private sanitary accommodations.

When a house has been licensed, on the door of every sleeping room a cardboard cartoon is attached giving a number to the room and specifying the number of people who may legally inhabit it.

There were 91 licenses issued during this year.

WATER SUPPLY.

The water from the artesian wells which are being driven throughout the Philippine Islands is examined by the Bureau of Science and passed upon by the Bureau of Health. Many of these samples of water, while giving excellent results from chemical analysis, show the presence of the colon bacillus indicating fecal contamination; this in a great majority of instances is due to the fact that the individual who collects the sample of water permits the water to trickle over his hands while putting it into the container thus washing off colon bacilli from his fingers. An examination of a second sample collected under absolutely aseptic conditions usually shows that the water is of a very good quality.

Many of these wells are drilled on the seacoast and contain an excessive amount of chlorine; where the other ingredients, the ammonia, nitrates, and nitrites are well within the limits of a pure water and the bacteriological examination is negative. In such cases the water is always deemed of good quality. In a few cases, however, the sodium chloride present, from which the chlorine is derived, has been in such great amount that the water was too salty to drink.

Occasionally free ammonia has been in excessive amounts, where the other ingredients are well within the limits of a good potable water and the bacteriological examination has been negative. An excessive amount of free ammonia in an artesian well where the other findings are favorable has not been looked upon as sufficient to discard the water for drinking purposes.

The city of Manila will probably sooner or later install a filtration system for its water supply, in addition to clearing the water shed of all human habitation. Such filtration, however, will not remove the amœbæ, and while it is generally believed at present that the amœbæ ordinarily found in water are not necessarily pathogenic unless such water has been contaminated by fecal matter which contains the pathogenic amœbæ whose habitat is in the colon, it is well to get rid of amœbæ as well as germ life.

Experiments done at the Bureau of Science with hypochlorite of sodium show that this chemical will not kill amœbæ, but experiments done by the Army Board for the Study of Tropical Diseases go to prove that the ultra violet rays do kill amœbæ, and therefore, this may ultimately prove to be the best method of treating the water supply after filtration.

EXAMINATION OF LABORERS FOR HAWAII.

The recruiting of laborers from the Philippine Islands to Hawaii for the Hawaiian Sugar Planters Association started two years ago. Until lately these laborers were examined by medical men for all communicable and disabling diseases before leaving the Islands, in Hongkong, and upon their arrival at Honolulu. Of course the diseased ones were rejected, and the people of Hawaii have had no reason to complain of the introduction among them of *undesirable* aliens. These visitors to Hawaii have always been well treated, well cared for, well fed, and well paid by the various plantations on which they work.

Lately, the cuartel, located at No. 22 San Nicolas, Manila, has been remodeled, refitted, and thoroughly equipped with clean bathrooms, modern water-closets, beds, etc. The rooms are spacious, clean and airy. Athletic and gymnastic appliances, a well-equipped laboratory and an examination room have been installed. A medical man, Dr. A. M. Saleeby, commissioned by the Bureau of Health is employed with a male nurse, a practicante, a maid, an able and tidy cook and several muchachos; and the place is so managed that it looks like a hospital kept under the strictest hygienic supervision.

In the first place, only men of good physique, intelligent, and free from contagious and disabling diseases are selected, after a careful physical examination. They are then admitted into the cuartel to be treated for any slight or accidental ailments, and to be examined and treated for hookworm. The examination is conducted by a biologist from the Bureau of Science who, if he finds them free from hookworms, gives them a certificate to this effect. Men suffering from hookworm disease are readily rejected; but those who have the worm and not the disease are treated until they become free from the parasite. This treatment is carried on on the same lines as that established by the Hookworm Commission in Porto Rico and the United States, with some modifications and changes according to local conditions. One or two treatments, occasionally three, have proved successful and given negative results in 85 to 90 per cent of the cases.

The results of the untiring efforts of the association in this matter have been successful. Filipino laborers now entering Honolulu are not only free from all contagious and communicable diseases, but healthy and strong, able, and anxious to work and develop the country. These laborers from the day they enter the quarters of the association in Manila

until the day they return from Honolulu are being taught the invaluable lessons of cleanliness, exercise, industry, good and wholesome nourishment, and above all, the precious arts of agriculture, money making, and money saving. After the expiration of their contracts they return to the Philippine Islands healthier, more industrious, more enlightened, and more useful citizens.

PROVINCIAL SANITATION.

There is a great desire on the part of the Bureau of Health to have every municipality, barrio and sitio able to provide adequate means for the disposal of its sewage, thereby preventing the contamination of the soil, with the subsequent contamination of the water supply, and in that way preventing the spread of water borne diseases, like cholera, dysentery and typhoid fever, or soil borne diseases like hookworm. With that end in view there will be brought to the notice of all provincial and municipal officers a simple but satisfactory way in which each municipality can control this most important subject at small expense by the adoption of the midden sheds which have been used in Manila with satisfactory results.

These sheds are rectangular structures about 3 meters wide by 10 meters long. They are built of wood, roofed with galvanized iron and the floor made of concrete so that it can be easily kept properly clean and disinfected. A partition divides the house into two parts, one for the use of males and one for females. Each side is provided with four to six pails with tight covers, each pail being inclosed in a box the lid of which is hinged and has a hole cut into it providing the seat. This hole comes directly over the pail and should also have a hinged lid which is kept closed when not in use to prevent the ingress of flies and the egress of foul odors. An attendant is employed to keep the place in a sanitary condition and to see that when a pail is full it is removed, the lid of same is placed thereon and an empty pail substituted. Every night the used pails are removed and the contents disposed of.

In the smaller towns, a shed made of bamboo and nipa would be quite satisfactory and would be much less expensive to build. There should however be a concrete floor or at least one made of hard earth. The contents of the pails may be disposed of by dumping into pits dug in the ground and not less than 5 feet deep. After disposal into said pits, the sewage is covered with a clean light dry earth. When a pit is full care should be taken to have the surface well covered with soil and it should then be untouched for at least three months to allow the septic organisms to act thus decomposing the waste matter and rendering it harmless. It can then be used for fertilizer with impunity.

The pits should be inclosed by a fence and should be located well away from a source of water supply on ground which is high and well drained

and where the level of the soil water is well below the level of the pit bottom. The pit should be roofed over so that rain water is kept out and trenches should be dug around the outside of the fence so that storm water will be carried off instead of draining into the pit.

TRAINING OF PROVINCIAL INSPECTORS.

During the month of March the district health officer of the Province of Bulacan sent eight of the provincial inspectors employed by that province to Manila for instruction. Eight more arrived during the month of April. They remained in Manila for nearly two months and were given instruction along many different lines of work. They were assigned to districts and in company with and under the supervision of the medical inspector, sanitary inspector and assistant sanitary inspectors, were taught how to perform house to house inspection; were sent out, one or two at a time on the disinfecting wagon and allowed to do all kinds of disinfections; given a large amount of practical instruction in vaccination; one or two at a time, they were assigned to mosquito extermination work; practical instruction was given in the diagnosis of leprosy, smallpox, tuberculosis and kindred diseases; they were taken to the various manufactories where knowledge of practical value to them could be obtained; they were taken to the slaughterhouse at killing time and shown the process of killing and dressing animals as well as being shown the difference between healthy and diseased animals.

The greater part of their instruction was received at Station J, but part of them were assigned to Station A, for a short time. The instruction given was of such a character that it should daily prove valuable to them in their provincial duties.

PROVINCIAL AND MUNICIPAL QUARANTINE.

For several years the quarantine privilege of the Philippines was abused. Quarantines were imposed by municipal councils between neighboring municipalities that served no other purpose than to embarrass commerce and make travelers take the longer way round. It would require a standing army larger than will ever be in the Philippines to make provincial and municipal quarantine effectual except in certain districts where the topography of the country permits of only certain definite lines of travel.

Modern research has shown that any quarantine which serves its purpose must include both the well and the sick. Bacilli carriers are often apparently perfectly well, yet the danger from them may be even greater than from the sick, for in the one case proper precautions would be neglected and in the other observed.

Local quarantine is now practically limited to the restriction of the movements of the sick and the contacts of dangerous communicable diseases and is called house quarantine. The questions growing out of

misapplied quarantine have been almost completely relegated to the past through the legal requirement that all quarantine must be approved by this office and by the Honorable, the Secretary of the Interior.

SANITARY MATTERS IN THE MORO PROVINCE.

Important legislation enacted by the legislative council of the Moro Province, for the purpose of reorganizing the health service of that government failed of ratification by the Philippine Commission.

There have been no epidemics in the province during the year. Prompt vaccination has checked the spread of smallpox wherever it has manifested itself.

American ideas of sanitation are not in accord with Moro ideas yet they have many practices or customs which possess merit. The reformation of these people will be a matter of patient education.

ERUPTION OF TAAL VOLCANO.

Taal Volcano, situated 35 miles south of Manila in the Province of Batangas, after several days of premonitory warnings in the nature of earthquakes, discharge of smoke, etc., finally on the night of January 30, 1911, broke out in violent eruption, belching forth a tremendous amount of lava, mud, fire, smoke, and gases with a deafening roar.

That many lives had been lost and much property destroyed seemed inevitable, but the full enormity of the catastrophe was not realized until reports began to come in from the stricken towns and barrios. As soon as it became evident that there were injured persons to care for, Medical Inspector Schapiro, and Assistant Sanitary Inspector Tago and Marques were rushed to the scene of the disaster with a plentiful supply of surgical dressings and supplies, leaving Manila January 31.

Shortly after this a request was received that a doctor be sent to Indang, Cavite, to care for a number of burned persons who had made their escape from the Taal region. Medical Inspector Snodgrass was sent with dressings and supplies, and returned with 18 patients who were sent to the Philippine General Hospital. After his return he was ordered to the stricken district to assist in caring for the injured.

Temporary hospitals were fitted out in Taal and in the barrios of San Nicolas, Pansipit, and Bayuyungan. Later, patients were cared for in the military hospital in Batangas and by the Bishop of Lipa. Information relative to the opening of hospitals was sent to all the barrios in the vicinity with a request that the injured be brought to them. The medical staff was given great assistance in this part of the work by all the other branches of the relief party. The majority of the dressings were done with picric acid or carron oil, with very good results. This Bureau supplied about 1,500 bandages and 1,000 feet of gauze and other dressings in proportion.

A remarkable feature of the work was the surprisingly small ratio of

injured to the number of dead, being in the proportion of about 1 to 14. Approximately 150 injured persons were found and treated while the number of dead reached nearly 2,000.

Burns of all degrees were found but the majority were quite superficial and doubtless caused by explosion of gases. When presented for treatment the injuries were in bad shape due to neglect or improper treatment. In all 78 cases were brought to the Philippine General Hospital with a resulting mortality of only 4. Several cases were complicated by fractures.

On Volcano Island practically all life was destroyed, and the same holds true of the barrios from Subig to Bayuyungan on the west shore of the lake at distances of from 3 to 7 miles.

In a number of instances, much difficulty was experienced in obtaining necessary assistance from the natives, even at good wages, in such emergencies the Constabulary rendered very timely aid in forcing men to work.

Three agencies were responsible for the high mortality.

1. Suffocation by the accumulation of gases. Survivors state that it was almost impossible to breathe prior to the explosions.

2. Evidence shows that the majority of the fatalities were caused by the explosion of gases. Many bodies, both of human beings and animals were found that had been bleeding from the orifices. Many women and animals aborted, doubtless from the terrific concussions of the explosions.

3. Undoubtedly many were drowend by the immense wave which inundated several barrios, and in receding carried practically every movable thing with it. In one instance the bodies of two girls were found impaled on the branches of a tree on the side away from the volcano and several feet above the ground showing the tremendous size and force of the wave.

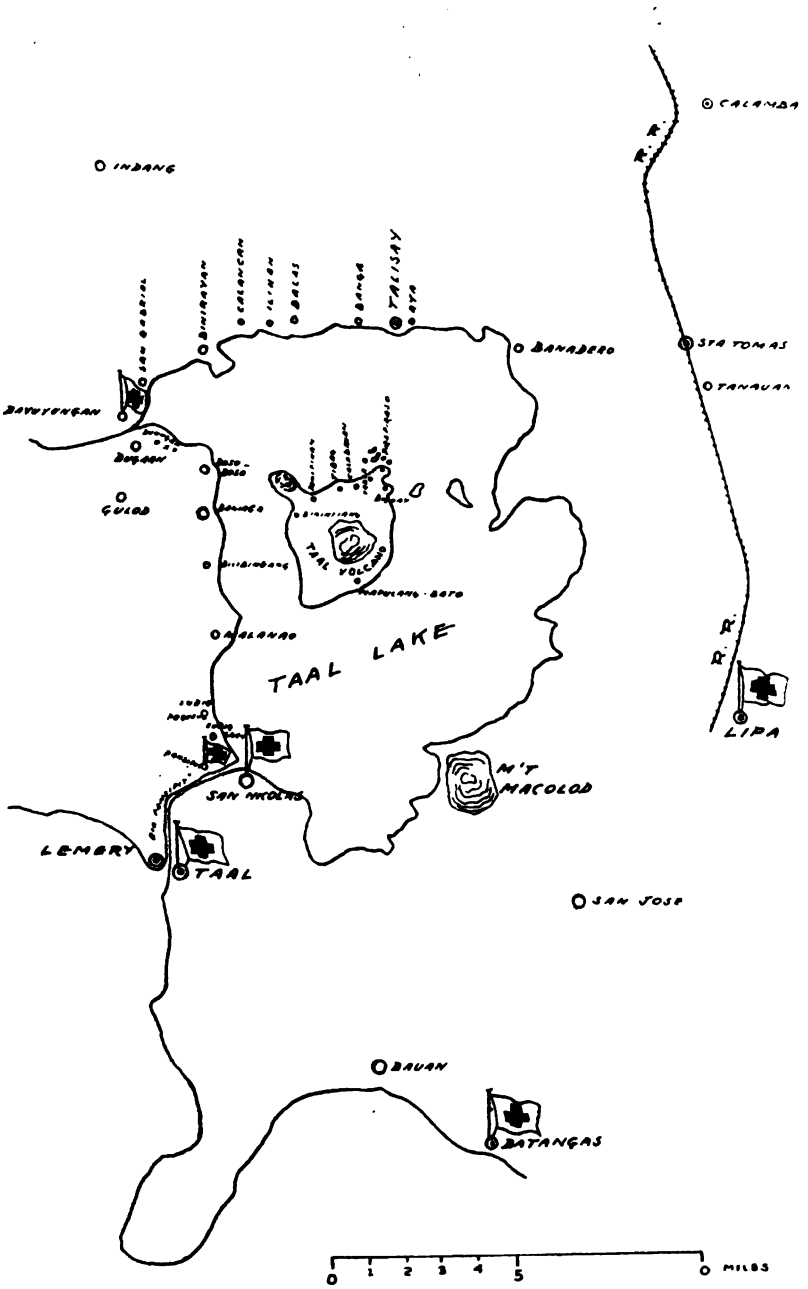
The United States burial corps did faithful and efficient work under very trying circumstances. About 750 bodies were interred. The large discrepancy between the number of dead and the number of bodies is due to the fact that many bodies were either buried by the mud and ashes or were washed back into the lake by the wave of which mention has been made. The bodies were disinfected, wrapped in sheets, and buried in either graves or trenches as the exigencies of the occasion permitted.

The relief corps under Colonel Rivers speedily supplied the survivors with food and many of them were better off after the eruption than they were prior to it. The attitude of the people as a whole seemed to be one of apathy.

BERIBERI.

The results obtained by substituting unpolished rice for polished rice in institutions of the Government of the Philippines have been all that could be possibly desired; at present in all of these institutions, beriberi is an unknown disease.

The results that have been obtained in these institutions have been



MAP OF TAAL REGION SHOWING LOCATION OF FIELD HOSPITALS. FEBRUARY, 1911.

confirmed by the Army by substituting certain leguminous vegetables, like the mongo bean for a part of the polished rice diet, thus practically eliminating beriberi from the native scouts, and they have produced the same results by substituting undermilled rice for highly milled rice.

In order to bring about the general use of unpolished rice in the Philippine Islands, a bill was drafted providing for the imposition of a tax of five centavos per kilo on all polished rice sold here, foreign or domestic, and polished rice was taken to mean any rice which contained less than 0.4 per cent phosphorous pentoxide. Phosphorous pentoxide was used as an index to the amount of polishing which the rice had undergone, or as a convenience in other words; and not because it was assumed that phosphorous pentoxide was the ingredient necessary to eliminate beriberi.

This bill failed to pass due to the adjournment of the Legislature.

PLAGUE.

The last case of plague in the Philippine Islands originating locally occurred April 26, 1906. A case was brought in on the steamship *Ferd Laciss* on July 23, 1907. This ship came from Chinese ports, Hongkong being the last port of call before arriving at Manila. Another case developed among the quarantined passengers of the steamship *Taisang* which arrived from Amoy on May 25, 1911, with 160 Chinese passengers.

As a precautionary measure a campaign against rodents was instituted in Manila and extra vigilance was enjoined on the officers of the United States Public Health and Marine-Hospital Service at all ports of entry.

A special study of the rats and their fleas is now in progress.

The outlook for the Philippines with respect to plague is encouraging but success will depend on unceasing vigilance and the enforcement of strict sanitary regulations.

On account of the possibility of plague-infected rats being landed in Manila, it was deemed advisable to inaugurate a rat-catching campaign; to this end the assistant sanitary inspectors were supplied with traps and a corps of 16 rat catchers employed. This work was begun in March and by July 1, about 5,000 of the rodents had been destroyed.

The rats, both dead and alive, were sent to the Bureau of Science to be examined for plague infection. It is gratifying to report that all specimens examined have proved negative.

CHOLERA.

The cholera outlook, at the present time, is more promising than it has been for several years. During the year, new infections were reported in only six provinces, viz, Albay, Ambos Camarines, Batangas, Ilocos Sur, Mindoro, and Tayabas. Of these Batangas was stricken the hardest. The infection occurred on July 7, and between that date and November 1,

a total of 1,427 cases was reported. The infection in the town of Batangas was the most severe and proved to be a very stubborn one to overcome, partly on account of lack of coöperation on the part of the people and the fact that the number of Constabulary guards available was insufficient to maintain an efficient house quarantine. True, the municipality at one time employed 40 natives as guards, but the majority of these were worse than useless, as they allowed the people to come and go as they chose, and the guards themselves were very frequently found fast asleep when supposedly on duty.

The only other serious epidemic was the one carried over from the preceding year in the Province of Pangasinan. The first case in this outbreak was reported on March 19, 1910, after this case no more were reported until April 12, between this time and October 3, a total of 4,040 cases occurred, 2,430 of this number being in the fiscal year of 1910–11. The epidemic was practically over by September 1, only a few scattering cases being reported after that date. This epidemic proved the absolute necessity of having the coöperation of the local officials and of the people themselves. The Bureau had a splendid organization to combat cholera, in this province, but the disease entered and gained a foothold in previously uninfected towns in spite of the best efforts of the sanitary force. However, by strenuous efforts, the total number of cases was kept down to about one-half the number that were reported during the epidemic of 1908. After the provincial and municipal officials, as a result of executive pressure being exerted, began to take an active part in the campaign, the number of cases, daily, diminished very rapidly. In this connection, it is only justice to the provincial treasurer to state that he took very active interest in the work from the outset and was of great assistance to the Bureau in its efforts to stamp out the disease.

The epidemics in the other provinces mentioned were of comparatively small proportions. The one in Ilocos Sur, however, was noted for its tenacity, the last case occurred on January 18, 1911, at Caoayan, after a struggle of many months duration.

Bulacan Province, that veritable hotbed of cholera, reported its last case on February 1, 1911, in Obando. When this remains clean for any great length of time, the cholera outlook for the Philippine Islands is very bright, as the disease has apparently been almost endemic in this province.

Manila had a total of 217 cases from July 1, to November 28, when the last case occurred. At no time was the disease epidemic, scattering cases occurring here and there. Doubtless many of the cases were brought in direct from the provinces after they had been infected. The value of the sanitary water and sewer system is clearly demonstrated when dangerous communicable diseases are to be combated.

During the year a total of 6,649 cases occurred, as against 9,957 for the year 1909–10 and 29,323 cases during the year 1908–9. The mortality ranged from 60 to 88.83 per cent. This very high death rate being reported from the Province of Pampanga.

It is most gratifying to be able to state that not a case has been reported in the Islands since March 9, 1911, when 2 cases were reported from Virac, Province of Albay.

It will be a source of much satisfaction to this Bureau when it is no longer necessary for it to use men and money to combat cholera but can use them for the purpose of building up a healthier Philippines.

INTESTINAL PARASITES.

From the investigation of Willets, Rissler, and others the statistical relation of the people of the Philippines to intestinal parasites is fairly well established.

In a paper on "The Statistical Study of Intestinal Parasites on the Tobacco Haciendas of the Cagayan Valley," Doctor Willets reported that he had done his work in connection with the study which was being made by the Bureau of Health for the purpose of determining the percentage of intestinal parasite infections among the general population of the Philippines. He stated that in all approximately 19,000 persons were examined and that among the first 4,000 were the prisoners at Bilibid, 84 per cent of whom were found to be infected with some form of intestinal parasite and 52 per cent had hookworms. The next extensive examination was made at Taytay in which 1,000 persons were examined: 95.90 per cent had intestinal parasites in some form and 10 per cent had hookworms. The next examination was made at Las Piñas in Rizal Province, where 6,000 persons were examined, of whom 90 per cent harbored some form of parasites and 16 per cent had hookworms. After that it was deemed advisable to make a certain number of examinations in inland towns where the influence of the sea would not be felt and accordingly 2,594 examinations were made at Tuguegarao in the Cagayan Valley; here 74.13 per cent were infected and 8.01 were found to have hookworms. The next examination was made at a large tobacco ranch named Santa Isabel, at which 802 persons were examined, and 86.28 per cent were found to be infected with some form of intestinal parasite and 45.38 had hookworms. The next extensive work was done on the hacienda San Antonio, which is probably the largest tobacco ranch in the Philippine Islands; here 4,278 persons were examined and 85.40 per cent found infected with an intestinal parasite in some form and 54 per cent had hookworms. This examination was made at the special request of the owners of the plantation, who reported that their laborers were apparently more indolent than is generally the case in the Philippine Islands.

From the foregoing it will be apparent that with the exception of the

examinations made at Bilibid and those of the haciendas Santa Isabel and San Antonio, the average percentage of hookworm infections is about 12 per cent. Doctor Willets was of the opinion that the work so far done showed that the intestinal parasites had a most important influence on the mortality and morbidity of the Philippines.

The Board for the study of Tropical Diseases of the United States Army reports that "Ninety two and one-half per cent of 119 male Igorots examined showed ova of some intestinal worms in their stools; that the infection rate with uncinaria among adult males was twenty-nine per cent, while that for children was lower, about eighteen per cent" (Journal of Science, November 1910, Section B, Vol. V, No. 5, p. 505.

ANTIMALARIAL MEASURES IN MINDORO.

Malaria has always been a retarding factor in the development of Mindoro Island. In March, 1911, a medical inspector of the Bureau of Health, was detailed to investigate the malarial condition in the southwestern section of Mindoro in the vicinity of the sugar estates.

The barrio of Mangarin, situated on the bay of the same name, is surrounded by mangrove swamps, and the inhabitants showed a splenic index of 57 per cent. Mangarin is the natural port of entry and acts as the infecting focus for this section of Mindoro. The only measures that will effectively remedy the existing condition is to move the barrio to a more salubrious locality. Pandarochan has been selected as the most favorable site for the new barrio.

San Jose, the town site of the sugar estates, was found to be badly infected by the *Myzomiirossii* mosquito. The mobidity from malaria was more than 40 per cent. The following antimalarial measures were instituted to combat this condition:

1. A system of drainage that will remove the stagnant water in the gulleys, lower the subsoil water, and drain the surface water.
2. Clearing of rank vegetation, removing obstructions, and centering the stream of the Magbando Creek, which runs within the town site.
3. Screening doors and windows, adding suale ceilings, and battenings on all quarters; thus rendering quarters practically mosquito proof. (17-meshes-to-the-inch screen.)
4. Mosquito brigade which oils all stagnant waters every six days.
5. Quinine prophylaxis.

FREE DISTRIBUTION OF QUININE.

Sometime ago the Bureau of Health began the free distribution of quinine on an extensive scale and it is hoped by this means to reduce the incidence of malaria. It is apparent that a profound impression has been made on the people regarding the value of this medicine as a prophylactic and curative remedy.

The following circular was first sent out to all district health officers

as a basis on which to estimate the quantity needed and to obtain the coöperation of suitable persons in every district to assist in the undertaking:

To the end that quinine may be placed in the hands of the people of the Philippine Islands, where it will do the greatest amount of good, district health officers will furnish this office with a list of responsible persons residing in each municipality of their district, who may be relied upon to attend to the proper distribution of the quinine, and who will see that the quinine actually reaches the people for whom it is intended. These persons will be expected to furnish a report to this office at the end of every month on a special form to be supplied for that purpose.

It is believed that the employees of the Bureau of Education would be glad to undertake the work and the Director of Education approves of such service if they are willing to undertake it. Employees of other Bureaus permanently stationed in municipalities would probably also be pleased to coöperate with the district health officer in this matter.

The quinine will be furnished in 0.3 gram (5 grain) capsules. The list furnished should state how many capsules or doses each person chosen in a municipality as a distributing agent is prepared to receive and carefully issue.

It is understood that in those localities, where malaria has a seasonal prevalence, the quinine will be administered in regular and frequent periodic doses to as large a percentage of the population as possible, as a prophylactic measure, just preceding the time anticipated for the seasonal recrudescence, one capsule a day being sufficient for this purpose.

The free distribution of quinine has undoubtedly been an important factor in improving the health of the people.

TYPHOID FEVER.

Typhoid fever is a reportable disease in Manila, yet it is not always reported. From some unknown reason, this fever has never manifested itself in the Philippine Islands with the same deadly violence that it frequently does in the United States.

As soon as a case is discovered in Manila it is sent to the Philippine General Hospital or may be isolated in the house if the conditions admit of it. It is the walking cases and the bacilli carriers that constitute the danger.

The Bureau of Health is trying to impress upon the people the similarity of the methods of acquiring typhoid fever and cholera and the importance of disinfection in both diseases.

In view of the fact that up-to-date knowledge of this disease shows that it is an infectious and communicable disease, and that there is no disease which requires more thorough and careful sanitary management to prevent the transmission of infection to other members of the family and indirectly to persons and households outside, it is rather discouraging to learn that some physicians put themselves in a position of considering typhoid fever a nontransmissible disease.

The three principal directions in which we must look for a diminution in the present unnecessarily great prevalence of typhoid fever is in an efficient control of the public water supplies, an assurance against the transmission of the infection through milk supplies, and a much more uniformly intelligent and efficient management of cases of typhoid fever in the sick room. Unclean hands are a menacing factor that is of prime importance.

The following are the special instructions with regard to the disease:

The aim of the sick-room management should be: The prompt destruction of every vestige of infection leaving the patient, in the discharges from the bowels and kidneys or in sputum, so that privy vaults, the ground, the home surroundings, or wells, springs, or other sources of water supply may not be infected. The utmost cleanliness of the patient and his surroundings and also of the hands of those in attendance should be the rule.

The work of disinfection should begin with the beginning of the treatment of cases and should continue during the whole course of the disease. All articles of bed clothing and of body clothing should be disinfected as soon as they are removed from the bed or from the patient.

VACCINATION.

During the year 1,167,984 vaccinations were made. Many were vaccinated without record being kept. This is especially true of those who were vaccinated by private physicians.

While there seems to be no organized opposition to vaccination, many escape; the same ones are, to a considerable extent, vaccinated year after year, and the same erring ones escape until smallpox destroys them.

The Filipino people believe in vaccination, but their strong fatalistic tendencies induce them to take chances that their better judgment condemns as unnecessary and hazardous. They are first of all fatalists and it is this philosophy that rules their lives.

In the United States and England there are antivaccination societies composed of people who seem to have the one idea that all the ills of the world are due to vaccination. Strange to say the prime movers in these societies are physicians; yet it is difficult to see how any observing medical man could question experience, evidence, and science so far as to doubt the thoroughly established fact of the practical influence of vaccination on smallpox.

Looking at the question of vaccination from a business man's standpoint, the man who employs labor, for instance, there are two problems which confront him, either to have his employees vaccinated or to allow them to go unvaccinated. It is the easiest thing in the world for an employer of labor to have his employees properly vaccinated and thus escape the annoyance and the hardships which may be worked upon him by being obliged to close his place of business during quarantine and fumigation by this Bureau. It is earnestly advised that every business

man, every corporation and company insist at once that their employees be vaccinated and that in the future a certificate of vaccination be furnished from some reputable physician before a new employee is hired. By making this a routine practice, business houses will escape the necessity of having their places closed. It is an extremely simple thing to be vaccinated under the conditions as they exist to-day. Be it understood that all vaccine virus is now manufactured under the control of the Philippine Government. Human virus is no longer used. The virus in use to-day comes from young calves, which animals are tested as to disease and after inoculation the vaccine itself is tested as to its absolute purity, at which time the Government allows its sale. There is absolutely no danger in its use. More than ten million people have been vaccinated in the Philippines without a single death occurring, and the disease, which had been prevalent since the occupancy of these Islands by the Spaniards, has practically ceased to exist.

YAWS.

During the year a number of cases of yaws have been treated in Baguio and Bontoc and at the Bilibid and Philippine General Hospitals, with Salvarsan by intermuscular injections. In each case the disease disappeared rapidly and entirely.

Tending to prove that this disease is gotten by direct contact, one of the medical inspectors in the Bureau of Health saw a case of yaws in a mother and her child. The lesions in the mother were located in the region of the hip. Filipino mothers frequently carry their children astride the hip and the child in this case developed lesions on the buttocks in the exact situation where it would come in contact with the lesions on the mother's hip.

The Army Board for the Study of Tropical Diseases, in a report in the Philippine Journal of Science, Section B, Volume 6, No. 3, states that the Wassermann reaction is positive in patients with yaws.

SANITARY ENGINEERING DIVISION.

The following extract is taken from the report of the sanitary engineer for the Bureau of Health, Mr. George H. Guerdrum:

The housing of a people forms an important part in the problem of proper preservation of the public health.

In the Philippine Islands, coincident with the subject of municipal drainage, municipal water supply, and municipal scavenger service, the no less important branch of house sanitation has received the attention of the sanitary authorities. In some ways it would appear that in a tropical country, where houses are not erected for protection from cold weather, the problem would be very much simplified, yet it has developed that in this country the increased danger of infection from transmissible diseases in a large measure tends to offset any such advantage gained.

Preliminary to regulating the building operations the following items have been carefully considered:

First. The natural habits and customs of the people.

Second. The mode of transmission of diseases most prevalent and most dangerous to the community with known means of prevention.

The typical house in the Philippines is a palm leaf or grass covered bamboo structure which outside of the centers of population is the type generally used and on the outskirts of every town including Manila hardly any other form of house prevails.

With the providing of a municipal water supply, surface drainage, municipal convenience stations, and a mild form of building supervision this style of construction has been rendered quite sanitary and will probably be continued in use for a very long and indefinite period. In the congested districts, however, this form of construction, on account of danger from fires and waste of ground space, cannot be used, and recourse must be had to strong material buildings.

The materials at hand and the congested, disease-breeding conditions confronted a few years ago in Manila have not been encouraging. Unsatisfactory enforcement of existing building regulations, long rows of houses opening into back yards used in common by hundreds of people; lack of kitchen facilities, cooking carried on in clay fire pots stuck around anywhere where protection could be secured from sun and rain, foul privies, used by all tenants of both sexes, lack of drainage, etc., were some of the evils encountered.

Conditions are by no means ideal now, as a house once erected is a very lasting affair and when built on insanitary lines is difficult to alter; a great advance has, however, been made. The large back yards common to dozens of doors and scores of families are now discouraged. Common privies used by many families are removed whenever possible and individual water closets for each house connected to the sewer system substituted, or in some cases, removed altogether and contiguous municipality controlled public convenience stations substituted.

With a view to improving future construction and educating local architects and house owners of the Philippine Islands in the principles of modern house sanitation a series of house designs has been prepared which is distributed gratuitously to interested persons. One of the keynotes of all of these plans is unit construction and the avoidance of tenement house conditions and evils, such as common toilets, kitchens and yards. The aim has been to make each apartment complete in itself with a separate entrance, kitchen and small yard surrounded by an effective wall. As many units may be constructed as the property will hold.

The value of the *esteros* or estuaries forming the delta of the Pasig river in its passage from Laguna de Bay to Manila Bay has been recognized since the earliest times. Until about 1860 these esteros were valuable chiefly for their commercial importance but with the introduction of the Carriedo water system in 1884 these waterways began to receive and carry crude house sewage. With the advent of the American occupation in 1898 and the extension of the water carriage system of sewage emptying directly into the esteros, they became very much polluted and probably assisted in the spread of the cholera epidemic of 1902. Since then a system of bacteriolytic tanks has been constructed to purify crude sewage before introducing it into the waterways of Manila. More recently, in 1909, a complete system of sanitary sewers for Manila has been completed at a cost of several million pesos, so that practically no crude sewage is now carried by these waterways.

It is gratifying to note that public and official interest is now centering

around these important streams. The Bureau of Navigation is extending dredging operations and it is hoped that an appropriation may be made for retaining walls to protect the banks and to maintain sanitary conditions. While some retaining walls have been built, these are merely sufficient to illustrate what is necessary.

The number of premises connected to the sanitary sewer in Manila during the year was 1,058; the total number of premises now connected to the sewer being 1,624 amounting to one-fourth of all the premises in Manila.

The construction of streets and drains for sanitary barrios has not ceased during the year and model barrios are now completed and occupied by many thousands of families who have been ejected from extremely insanitary shacks and tenement houses in Sampaloc, Santa Cruz, Tondo, and San Nicolas. The project for a sanitary barrio at Santa Ana has not yet progressed to a point where construction work can be commenced, due to the fact that the property desired is owned by minors who cannot dispose of land needed for street and other purposes until April, 1912, when they become of age and the property may be divided.

Forty additional public convenience stations have been erected during the year.

The importance of maintaining these stations, which now number 174, cannot be overestimated, as they form a most direct means of preventing the spread of dangerous intestinal diseases.

The Mariquina watershed reservation, which is under the control of the City of Manila, comprising an area of 280,000,000 square meters is located at its nearest point about 15 miles from Antipolo and about 45 miles from Manila. The one town of Bosoboso located within the reservation has been vacated by the municipal authorities of Manila; all houses and lands having been purchased. There is however a considerable portion of the reservation which is still claimed by private parties. There are however very few people on the property and in fact it is nearly abandoned as far as agricultural or other pursuits are concerned.

An ordinance prepared in this office and approved by the Governor-General is now pending before the Municipal Board of the city of Manila. This ordinance provides against trespassing on the watershed; prohibits all agricultural pursuits, hunting, fishing, cutting of timber, bamboo and grass, the pollution of streams and bathing in water courses, and provides for sanitary guards and determines the police jurisdiction and *modus operandi*.

The relations of this office with the Municipal Board and its various members is now most cordial. Too much cannot be said with reference to the prompt and efficient manner in which the city engineer, Wm. H. Robinson, has seconded all efforts tending to a betterment of sanitary conditions in Manila. With the continuance of the present policy many of the deplorable conditions heretofore encountered have been or are being corrected. With provision made for the correction of insanitary conditions in Manila the danger of transmissible diseases in the provinces is reduced to a minimum.

Provincial work or work outside of Manila and its environments has been mostly of an instructive or advisory nature. When it is noted that Manila has a population of 234,000 inhabitants, and that the town next to it in importance and size is Cebu with a population of only 55,000 it will be seen that the great mass of structural sanitation to be performed is in Manila. Nevertheless it has been the aim to make the division of sanitary engineering of the Bureau of

Health as useful to the District Health Officers as possible. Every effort has been made to answer promptly all inquiries with reference to such structural problems in sanitation as reach this office from various parts of the Islands. Probably the most important question now confronting provincial towns is a safe and economical method of night soil disposal combined with a system of convenience stations.

The year just closed has been the most progressive encountered in many years, increased activity in building and structural sanitation being noted from many parts of the Islands, and especially in Manila.

With the continuance of the present conditions danger from the spread of such diseases as plague and cholera will be reduced to a minimum.

SANITARY ENGINEERING DIVISION.

Statistical information by quarters.

	July to September.	October to December.	January to March.	April to June.	Total.
Orders pending June 30, 1910					695
Minor orders issued	58	32	116	129	335
Sewer orders issued	88	296	198	329	906
Premises ordered vacated	0	285	414	198	897
Vacated	0	3	228	406	637
Minor orders completed	72	23	108	56	254
Sewer orders completed	204	159	156	188	702
Orders canceled	34	89	24	17	164
Legal prosecutions	1	0	4	80	85
Orders pending June 30, 1911					991
Amount of fines	₱50	0	₱45	₱63	₱158
Building plans:					
Strong materials—					
Approved	105	108	116	136	465
Completed	37	57	35	34	163
Buildings, light materials, plans approved	210	127	157	86	580

Statistical information by stations.

	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Orders pending June 30, 1910	253	348	68	9	17	695
Minor orders issued	59	62	77	101	36	335
Sewer orders	208	366	267	45	20	906
Vacating orders	25	411	311	96	54	897
Minor orders completed	50	43	29	101	31	254
Sewers orders completed	239	346	90	6	21	702
Premises vacated	7	386	211	12	21	637
Orders canceled	30	28	97	8	1	164
Prosecutions	0	81	3	1	0	85
Pending orders June 30, 1911	219	308	298	123	53	991
Fines	0	₱148	0	₱10	0	₱158
Building plans:						
Strong materials—						
Approved	119	116	188	46	46	465
Completed	34	47	80	38	14	163
Light materials	3	1	124	297	155	580

Sixty-seven cases dismissed on account of defendants complying with order of the court.

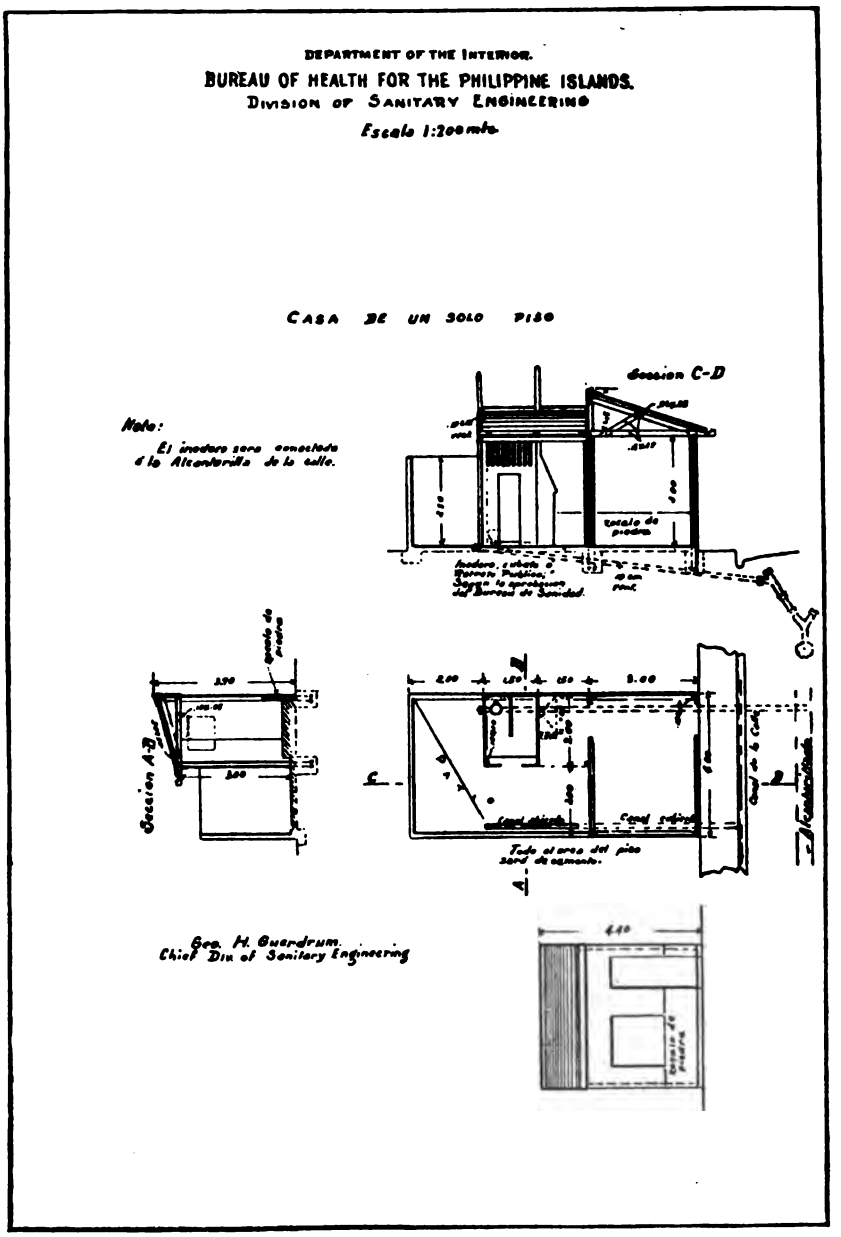


FIG. 1.

Estimated cost, ₱600.

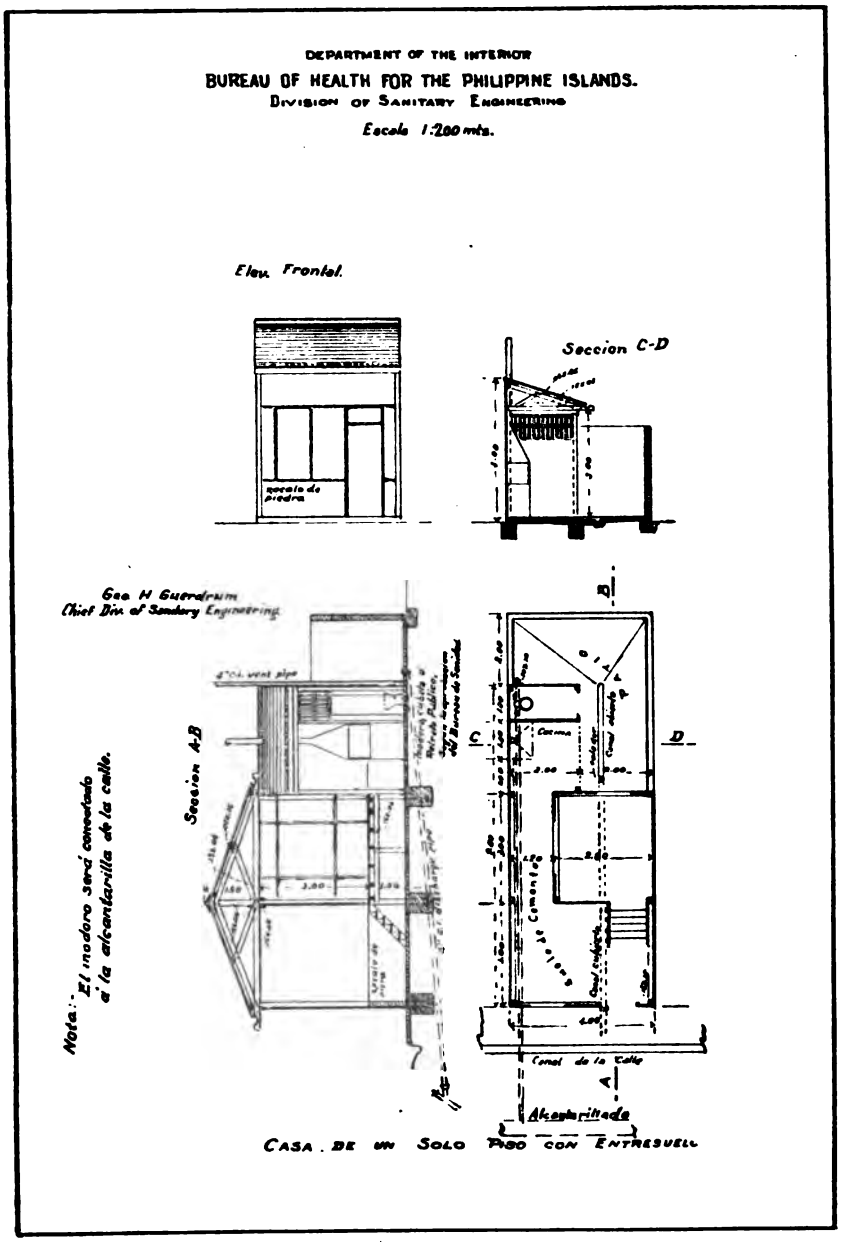

DEPARTMENT OF THE INTERIOR
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS.
DIVISION OF SANITARY ENGINEERING
Escala 1:200 mts.
Elev. Frontal.
Seccion C-D
Geo H Guerrerum
Chief Div. of Sanitary Engineering
Seccion A-B
Nota: El inodoro será conectado a la alcantarilla de la calle.
Canal de la Calle
Alcantarillado
CASA DE UN SOLO PISO CON ENTRESUELO

FIG. 2.

Estimated cost, ₱900.

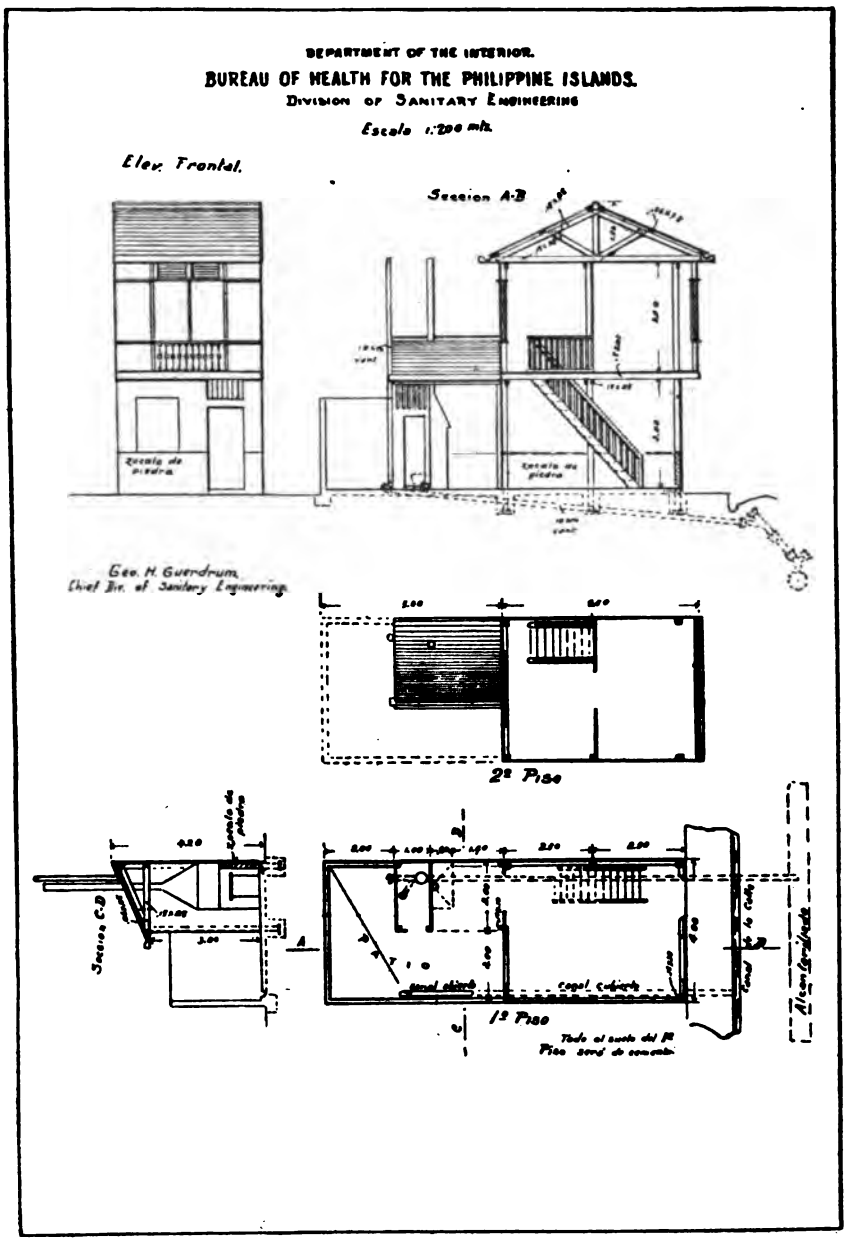


FIG. 3.

Estimated cost, ₱1,500.

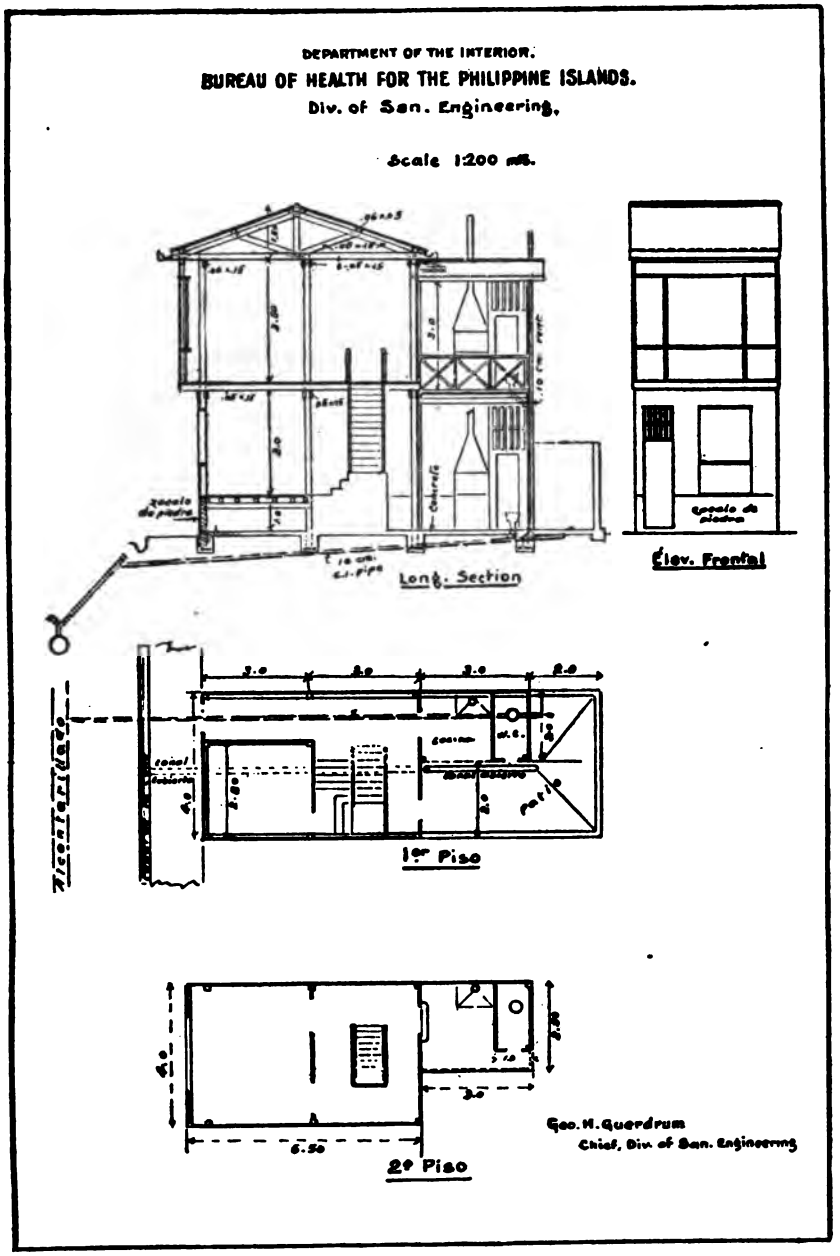


FIG. 4.

Estimated cost, ₱2,000.

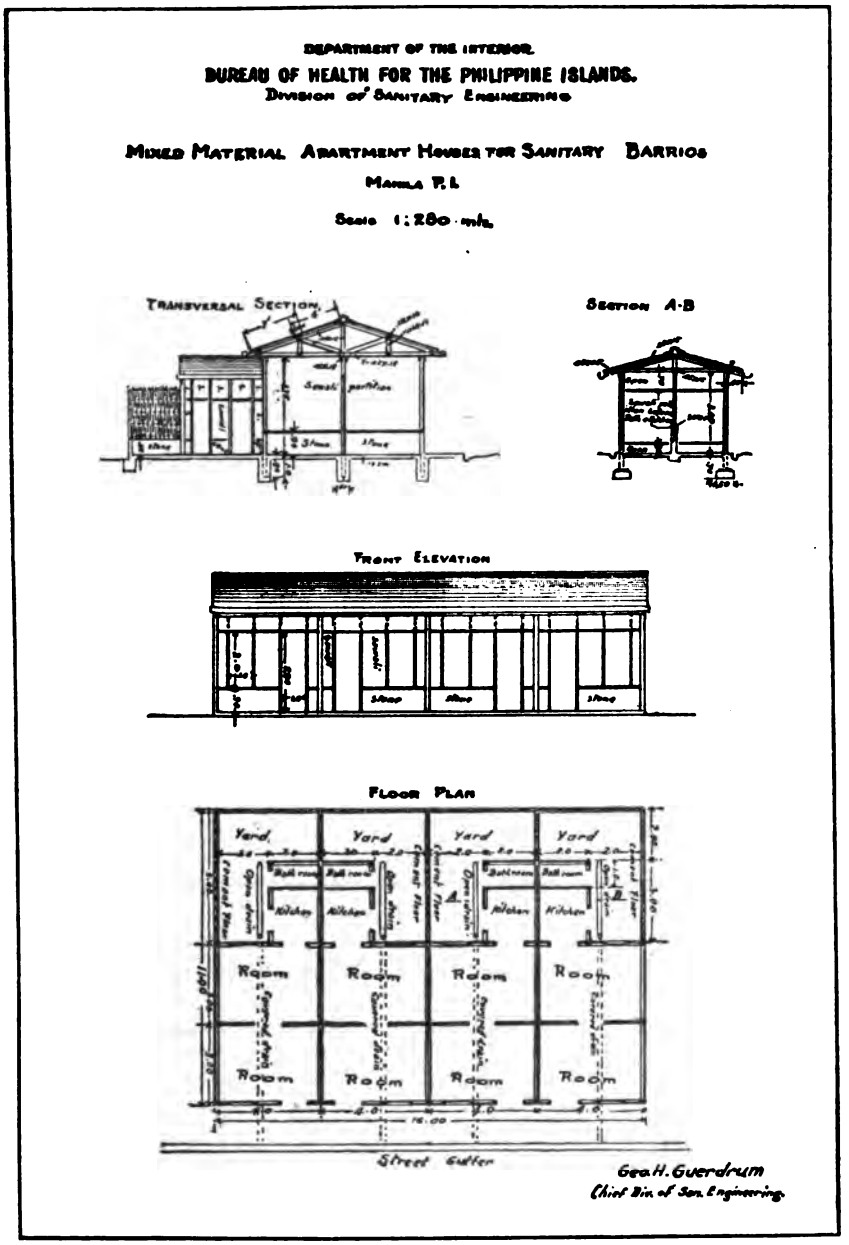
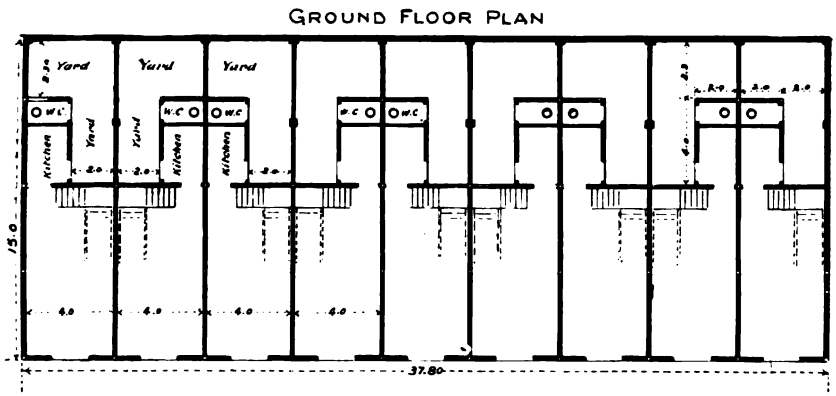


FIG. 5.

Estimated cost, ₱1,200.

A NINE APARTMENT BUILDING ERECTED WITH PRIVATE CAPITAL, CALLE SAN MARCELINO, MANILA.



[Scale: 1.360 meters.]

FIG. 6.

AN EIGHT APARTMENT BUILDING ERECTED WITH PRIVATE CAPITAL,
CALLE BENAVIDES, BINONDO, MANILA, P. I.

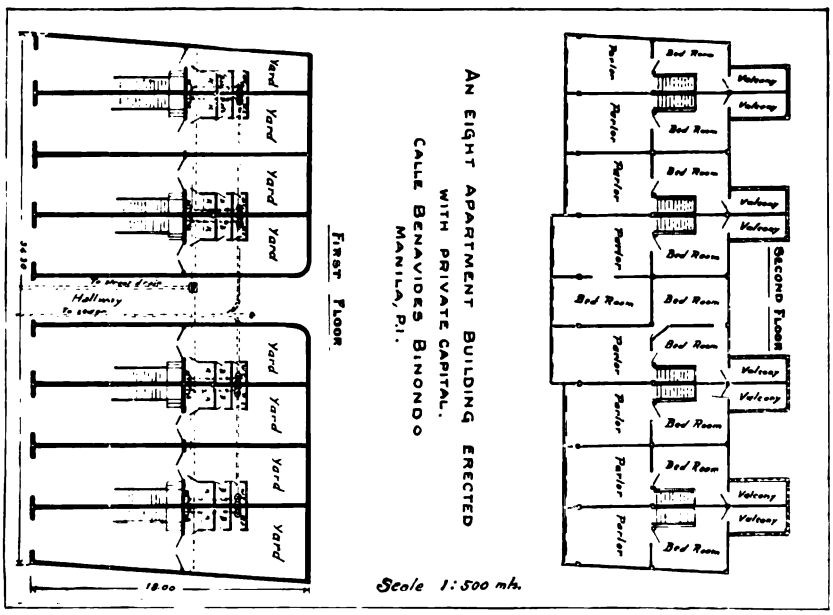


FIG. 7.

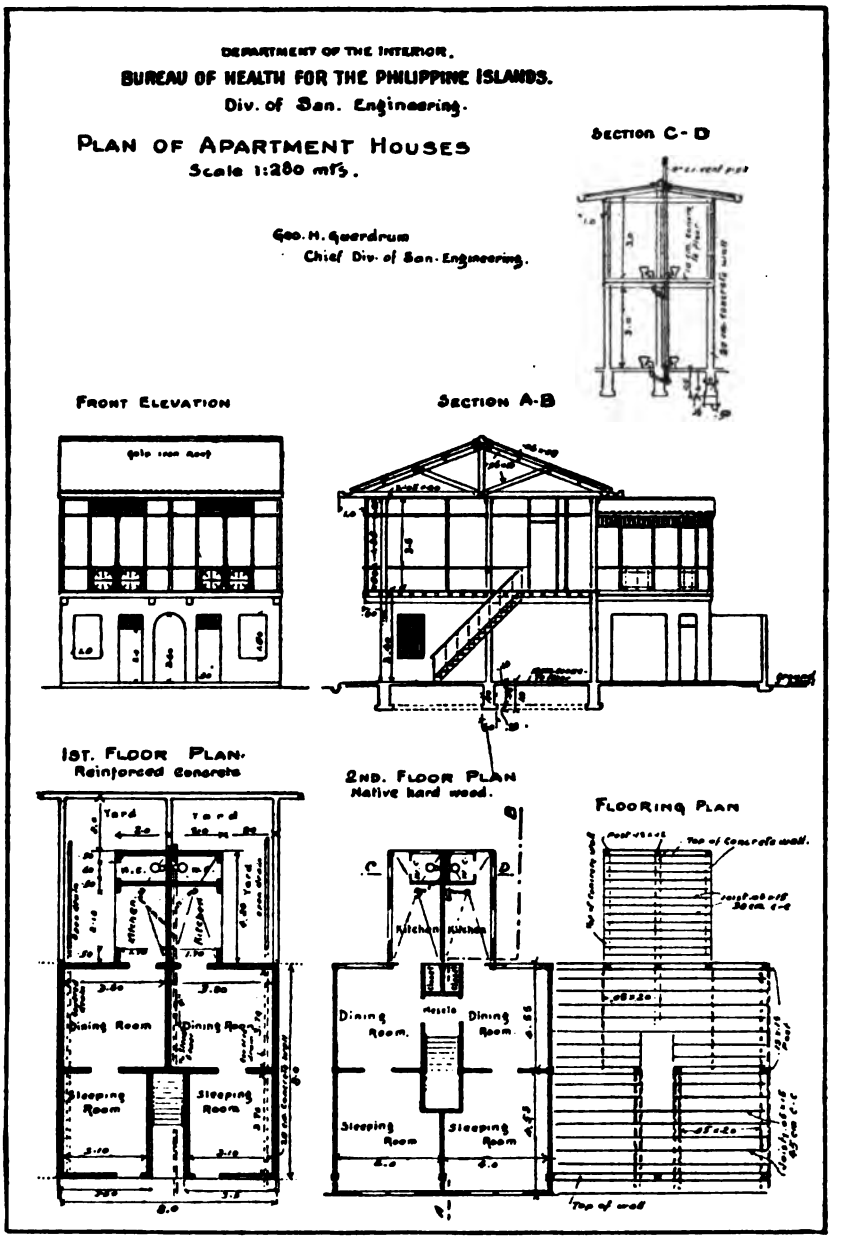


FIG. 8.

Estimated cost, ₱8,000.

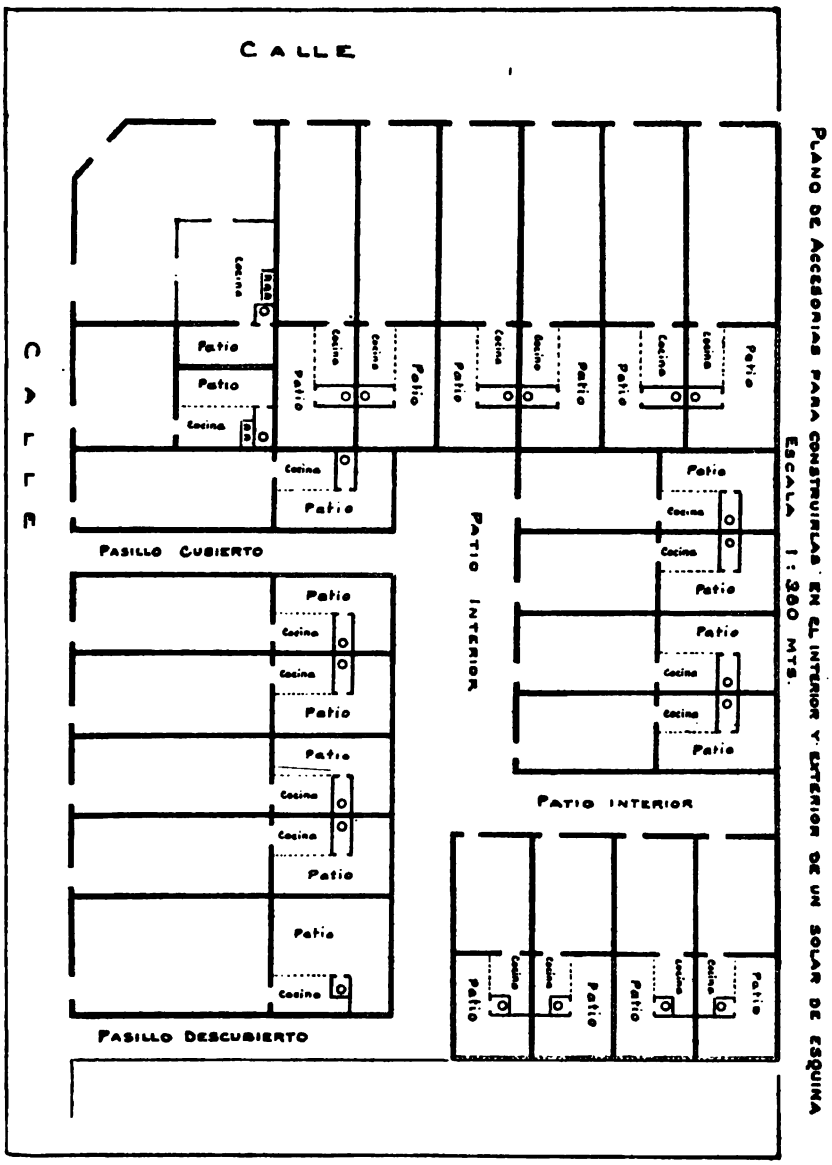
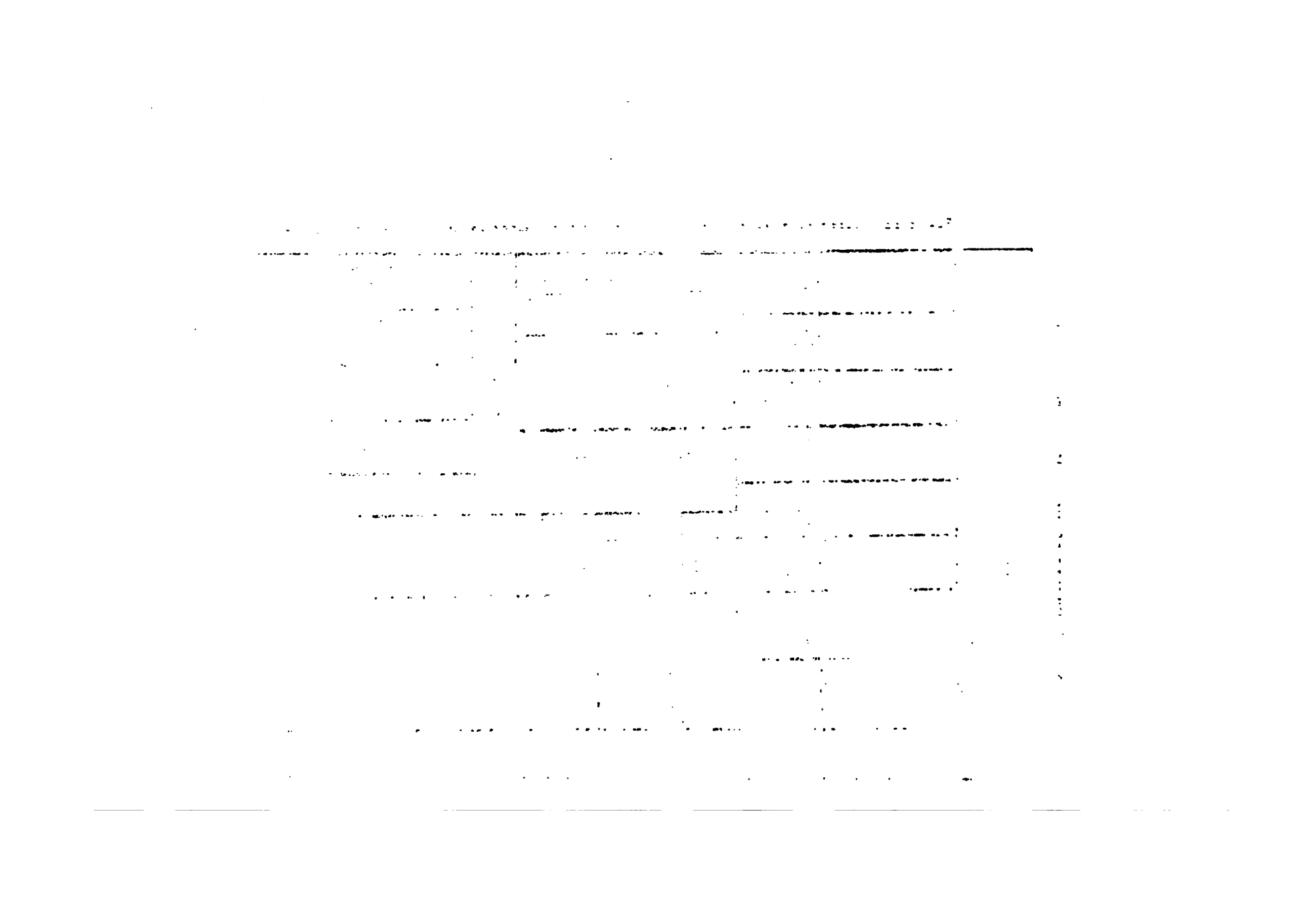
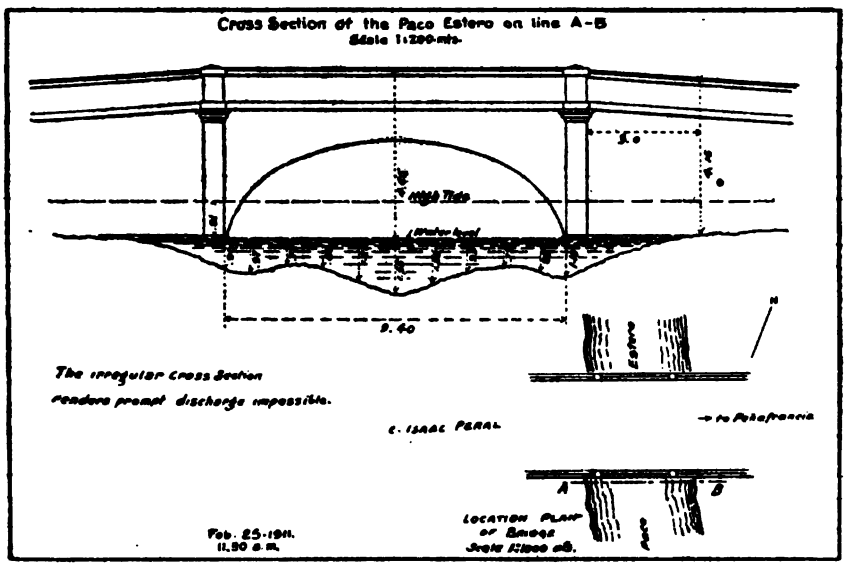

CALLE
CALLE
PASILLO CUBIERTO
PASILLO DESCUBIERTO
PATIO INTERIOR
PATIO INTERIOR
Patio
Cocina
PLANO DE ACCESORIAS PARA CONSTRUIRLAS EN EL INTERIOR Y EXTERIOR DE UN SOLAR DE ESQUINA
ESCALA 1:300 MTS.

FIG. 9.




Cross Section of the Paco Estero on line A-B
Scale 1:200 mts.
High Tide
water level
9.40
The irregular cross Section
renders prompt discharge impossible.
C. ISAAC PERAL
to Malacañang
Estero
N
A
B
Feb. 25-1911.
11.30 a.m.
Location Plan
of Bridge
Scale 1:2000 mts.
Paco

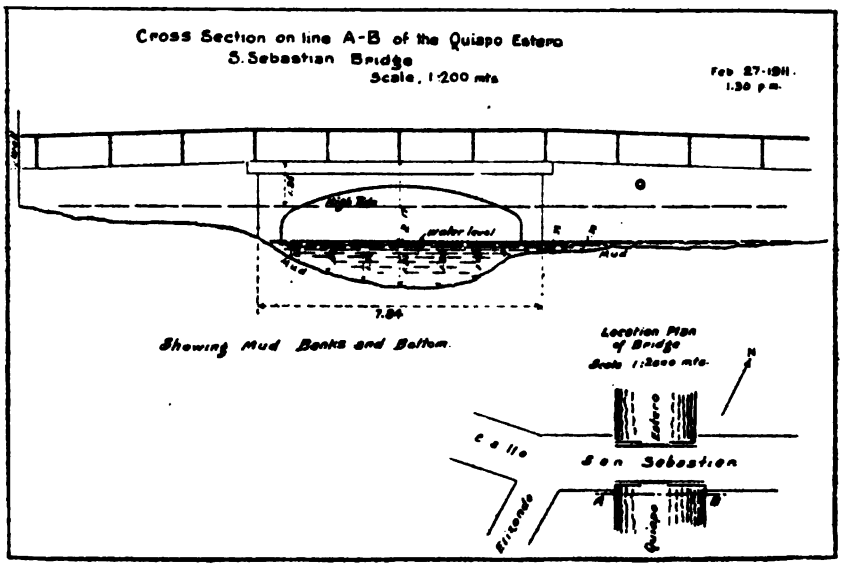
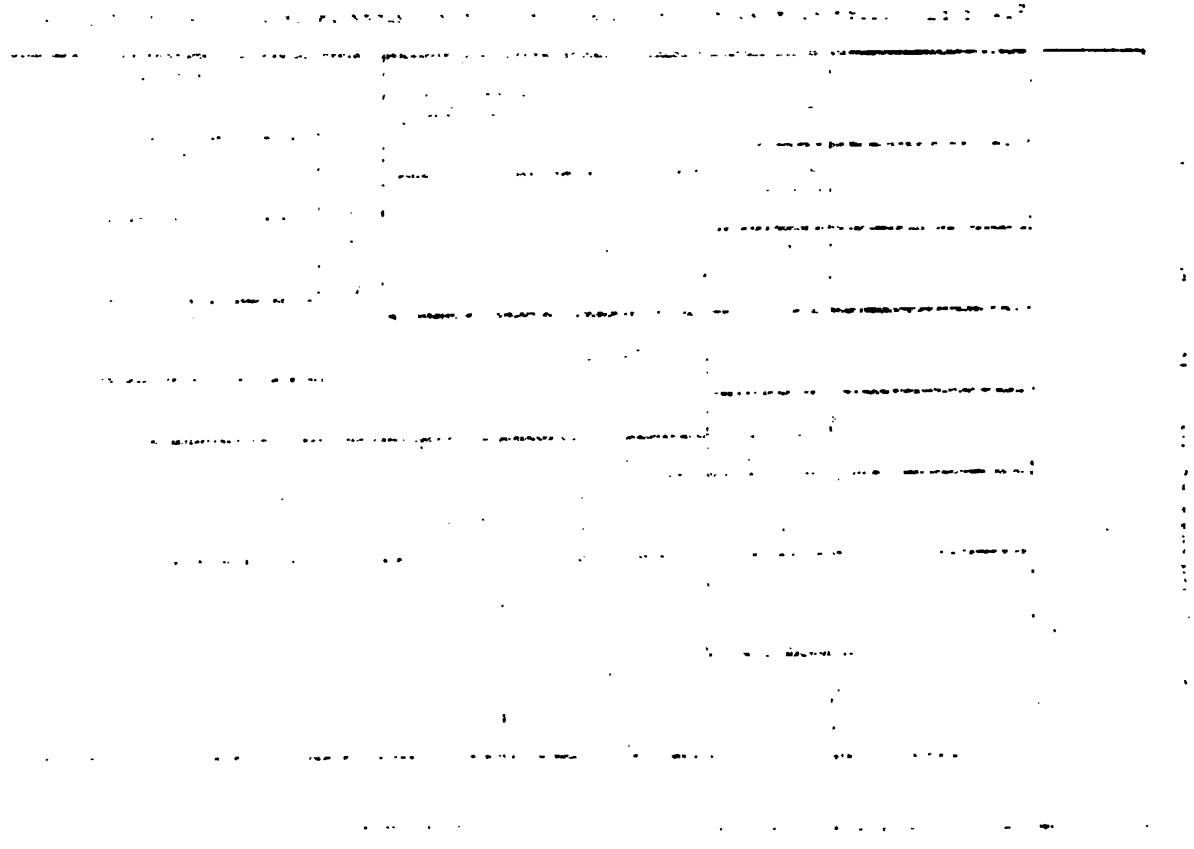
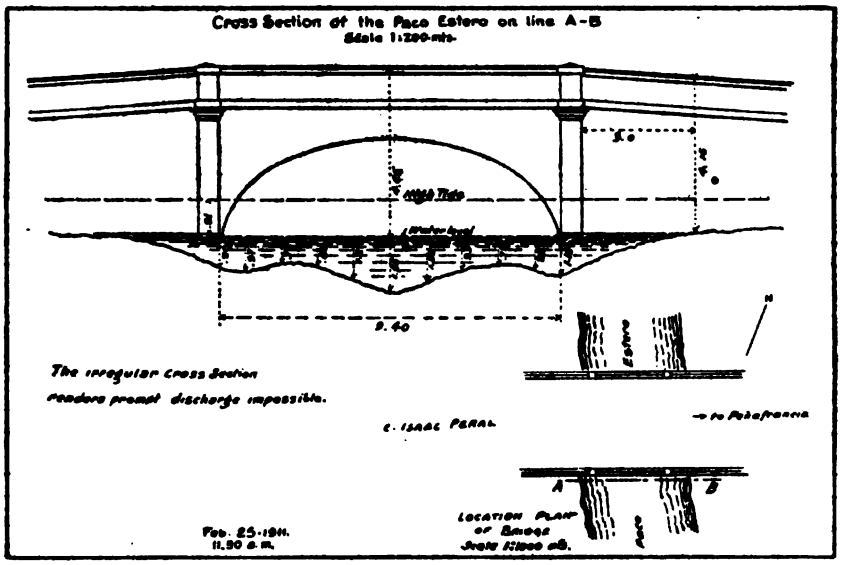

Cross Section on line A-B of the Quiapo Estero
S. Sebastian Bridge
Scale, 1:200 mts
Feb 27-1911.
1.30 p.m.
High Tide
water level
Mud
7.84
Showing Mud Banks and Bottom.
Location Plan
of Bridge
Scale 1:2000 mts.
N
Estero
Calle
San Sebastian
Elizondo
A
B
Quiapo

Fig. 10.




Cross Section of the Paco Estero on line A-B
Scale 1:200 mts.
High Tide
water level
9.40
The irregular Cross Section
renders prompt discharge impossible.
C. ISAAC PERAL
to Pasaytanna
Estero
Paco
A
B
Feb. 25-1911.
11.30 a. m.
Location Plan
of Bridge
Scale 1:2000 mts.

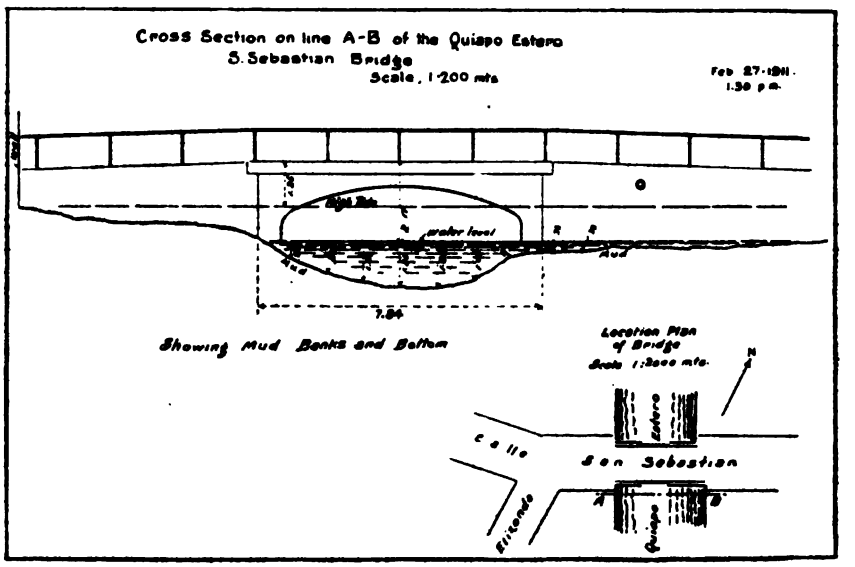

Cross Section on line A-B of the Quiapo Estero
S. Sebastian Bridge
Scale, 1:200 mts
Feb 27-1911.
1.30 p.m.
High Tide
water level
Mud
7.84
Showing Mud Banks and Bottom
Location Plan
of Bridge
Scale 1:2000 mts.
Estero
Calle
San Sebastian
Elcano
Quiapo
A
B

Fig. 10.

CONCLUSION.

The year covered by this report has been characterized by decided progress and success in public health matters.

That epidemics of dangerous communicable diseases will occur in the future may be expected, but the days of panics are over. The Bureau with its organization and experience no longer fears invasions of epidemic diseases. Smallpox can be prevented by vaccination; beriberi can be cured as well as avoided through the use of unpolished rice; cholera can be restricted by proper sanitary measures; plague can be prevented by rat extermination. Thus it will be seen that sanitary measures are available against nearly all diseases that afflict mankind.

The task that confronts the Bureau of Health is a formidable one but since success has been attained in the time gone by under less favorable conditions, there is reason for faith in the possibilities of the days to come. To those through whose loyalty and aid former achievements that have been accomplished are due, the undersigned acknowledges his appreciation for the past and his hopeful reliance for the future.

Respectfully submitted.

CARROLL FOX,
Acting Director of Health,
Passed Assistant Surgeon,
U. S. Public Health and Marine-Hospital Service.

The Honorable the SECRETARY OF THE INTERIOR.

STATISTICAL TABLES

BUREAU OF HEALTH

DIVISION OF STATISTICS

JULY 1, 1910 TO JUNE 30, 1911

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1911.]

Population of the city of Manila.

[Health census of 1910.]

Nationality.	Population.	Nationality.	Population.
Americans	4,174	Chinese	14,639
Filipinos	211,859	All others	1,276
Spaniards	2,264		
Other Europeans	444	Total	234,469

Marriages.[a]

	Total marriages.	Health districts.					Single males married—			Widowed males married—		
		No. 1.	No. 2.	No. 4.	No. 5.	No. 6.	Single females.	Widowed females.	Divorced females.	Single females.	Widowed females.	Divorced females.
Americans	45	35	5	3	2		35	1	3	4	1	
Filipinos	1,397	180	576	70	488	63	1,164	71		166	57	
Spaniards	1				1		1					
Other Europeans	5	2	1	1	1		4			1		
Chinese	43	4	26	1	12		33	3		6	2	
All others	2	1	1				1	1				
Total	1,493	222	609	75	524	63	1,237	76	3	116	60	

	Divorced males married—			Nationality of bride.						Relationship.	
	Single females.	Widowed females.	Divorced females.	American.	Filipino.	Spanish.	Other Europeans.	Chinese.	All others.	Blood.	Affinity.
Americans			1	34	3		3				
Filipinos					1,396	1				8	
Spaniards					1						
Other Europeans				2	1		1	1			
Chinese					38			5			
All others					1				1		
Total			1	36	1,445	1	4	6	1	8	

[a] Registration incomplete.

Average per thousand population 12.73.

Marriages by age.[a]

Age.	Males. Number.	Females. To 14 years.	To 20 years.	To 25 years.	To 30 years.	To 40 years.	To 50 years.	Over 50 years.
To 14 years								
To 20 years	465	1	395	60	6	3		
To 25 years	572	1	372	172	23	4		
To 30 years	206		98	57	41	8	2	
To 40 years	177		67	40	38	31	1	
To 50 years	49		5	6	18	15	5	
Over 50 years	24		2	3	2	9	7	1
Total	1,493	2	939	338	128	70	15	1

[a] Registration incomplete.

Births reported.[a]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	69	55	124	29.70
Filipinos	4,676	4,281	8,957	42.27
Spaniards	20	16	36	25.22
Other Europeans	13	9	22	24.16
Chinese	21	17	38	42.69
All others		3	3	9.84
Total and average	4,799	4,381	9,180	39.16

[a] Registration incomplete.

Births, by districts.

Health districts.	Number of legitimates. Male.	Female.	Total.	Number of illegitimates. Male.	Female.	Total.	Grand Total.
No. 1, Intramuros	548	503	1,051	29	37	66	1,117
No. 2, Meisic	1,094	986	2,080	99	97	196	2,276
No. 4, Sampaloc	862	763	1,625	80	82	162	1,787
No. 5, Tondo	1,434	1,315	2,749	64	79	143	2,892
No. 6, Paco	583	499	1,082	11	15	26	1,108
Total	4,516	4,071	8,587	283	310	593	9,180

Births, by districts, and annual birthrate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,117	37.55
No. 2, Meisic	82,771	2,276	27.49
No. 4, Sampaloc	37,697	1,787	47.40
No. 5, Tondo	62,354	2,892	46.38
No. 6, Paco	21,843	1,108	50.72
Total and average	234,409	9,180	39.16

Births, by districts, according to number of children borne by mother.

Number of births, in the order in which the child was born, whether first child, second child, etc.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.
First	319	12	607	16	398	13	635	25	217	9	2,176	75
Second	208	11	441	11	376	11	561	16	218	2	1,819	51
Third	171	6	377	14	249	8	468	14	176	3	1,436	45
Fourth	118	7	263	9	245	16	382	10	162	2	1,170	44
Fifth	100	7	182	8	154	6	294	15	107	4	837	40
Sixth	61	7	140	5	124	10	178	8	89	3	592	33
Seventh	44	2	91	4	83	3	122	5	37	1	377	15
Eighth	31	4	57	4	57	1	72	2	36	1	253	12
Ninth	17	5	40	6	30	3	44	5	27	2	158	21
Tenth	17	4	20	2	33	1	54	3	10	------	134	10
Eleventh	13	1	18	1	21	3	27	2	9	------	88	7
Twelfth	8	------	13	------	5	------	21	1	12	1	59	2
Thirteenth	7	1	16	2	4	------	7	------	1	1	35	4
Fourteenth	3	------	6	1	2	1	5	1	2	------	18	3
Fifteenth	3	------	2	2	2	------	3	------	1	------	11	2
Sixteenth	------	------	1	1	1	------	1	------	3	------	6	1
Seventeenth	2	------	1	------	2	1	2	------	------	------	7	1
Eighteenth	------	------	1	------	------	------	------	------	------	------	1	------
Nineteenth	------	------	------	------	------	------	------	------	1	------	1	------
Twentieth	------	------	------	------	------	------	------	------	------	------	------	------
Twenty-first	------	------	------	------	1	------	------	------	------	------	1	------
Twenty-second	------	------	------	------	------	------	------	------	------	------	------	------
Twenty-third	------	------	------	------	------	------	1	------	------	------	1	------
Total	1,117	67	2,276	86	1,787	77	2,892	107	1,108	29	9,180	366

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	47	11.26	Chinese	228	16.17
Filipinos	7,456	35.19	All others	11	8.62
Spaniards	42	17.76			
Other Europeans	4	6.21	Total and average	7,788	33.22

A classified report of all deaths occurring in Manila, including transients.

	Males.	Females.		Males.	Females.
Married	876	621	Children	2,872	2,456
Divorced	1	0	Condition not stated	45	25
Widowed	272	440	Total	4,575	3,704
Single	509	162	Grand total	8,279	

Stillbirths	365
Number of deaths with medical attendance	4,500
Number of deaths without medical attendance	3,779

Deaths, by age, including transients.

	Residents.	Transients.	Total.		Residents.	Transients.	Total.
Under 30 days	924	10	934	40 years to 50 years	404	58	462
30 days to 1 year	2,969	101	3,070	50 years to 60 years	318	34	352
1 year to 2 years	578	21	599	60 years to 70 years	251	25	276
2 years to 5 years	503	14	517	70 years to 80 years	196	14	210
5 years to 10 years	143	6	149	80 years to 90 years	154	5	159
10 years to 15 years	63	10	73	90 years to 100 years	82	1	83
15 years to 20 years	137	20	157	Over 100 years	41	1	42
20 years to 25 years	214	36	250	Unknown	13	3	16
25 years to 30 years	261	45	306				
30 years to 40 years	567	87	654	Total	7,788	491	8,279

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,036	34.13
No. 2, Meisic	32,771	1,958	28.65
No. 4, Sampaloc	37,897	1,283	34.03
No. 5, Tondo	62,354	3,263	52.33
No. 6, Paco	21,843	759	34.74
Total and average	234,409	8,279	35.31

Comparative mortality from January 1, 1901, to June 30, 1911.

Month.	1901		1902		1903		1904	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	a 36.25	760	a 36.58	602	a 28.98	796	b 42.64
February	689	a 36.72	706	a 37.63	511	a 27.23	709	b 38.29
March	885	a 42.60	770	a 37.06	539	a 25.94	751	b 36.23
April	886	a 44.07	1,327	a 66.01	549	a 27.31	748	b 41.40
May	903	a 43.47	1,688	a 81.26	770	a 37.06	766	b 41.08
June	621	a 30.89	1,418	a 70.54	592	a 29.45	809	b 44.28
July	608	a 29.27	2,223	a 107.02	620	b 33.21	866	b 46.39
August	702	a 33.79	1,712	a 82.41	863	b 46.17	1,082	b 55.28
September	767	a 38.15	1,132	a 56.31	1,228	b 67.97	1,064	b 58.89
October	855	a 41.16	927	a 44.62	1,217	b 65.19	1,018	b 54.53
November	848	a 42.18	1,035	a 51.48	974	b 53.91	957	b 52.97
December	858	a 41.30	753	a 36.25	894	b 47.89	794	b 42.53
Total	9,375	a 38.30	14,451	a 59.04	9,356	b 40.27	10,301	b 46.33

Month.	1905		1906		1907		1908	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	685	b 36.69	737	b 39.48	632	c 33.81	1,117	c 58.87
February	608	b 36.05	595	b 35.28	473	c 27.60	733	c 41.29
March	563	b 30.15	600	b 32.14	464	c 24.45	720	c 37.94
April	530	b 29.33	555	b 30.72	416	c 22.65	626	c 34.09
May	526	b 28.17	600	b 32.14	462	c 24.35	633	c 33.36
June	953	b 32.82	693	b 38.36	402	c 21.89	678	c 36.92
July	747	b 40.01	1,451	b 77.72	515	c 27.14	977	c 51.49
August	841	b 45.05	1,182	b 63.31	658	c 34.41	1,148	c 60.50
September	1,013	b 56.07	835	b 46.22	768	c 41.82	1,362	c 74.17
October	850	b 45.53	684	b 36.64	877	c 46.22	991	c 52.23
November	944	b 52.25	653	b 36.14	725	c 39.48	837	c 45.58
December	841	b 45.05	597	b 31.98	900	c 47.43	824	c 43.62
Total	8,741	b 39.74	9,182	b 41.74	7,287	c 32.59	10,646	c 47.62

Comparative mortality from January 1, 1901, to June 30, 1911—Continued.

Month.	1909		1910		1911	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	720	[a]37.94	729	[d]36.64	658	[d]32.82
February	616	[a]35.94	688	[d]35.50	586	[d]29.82
March	618	[a]32.57	642	[d]32.26	574	[d]28.85
April	550	[a]29.95	594	[d]30.85	547	[d]28.40
May	544	[a]28.67	604	[d]30.35	609	[d]30.60
June	552	[a]30.06	646	[d]33.56	698	[d]35.99
July	691	[a]36.41	799	[d]40.15		
August	679	[a]35.78	731	[d]36.74		
September	649	[a]35.34	664	[d]34.48		
October	700	[a]36.89	705	[d]35.48		
November	778	[a]42.37	642	[d]33.34		
December	839	[a]44.21	635	[d]31.91		
Total	7,986	[a]35.50	8,029	[d]34.25		

[a] Death rate computed on population of 244,732 (health department's census).
[b] Death rate computed on population of 219,941 (official census, 1903).
[c] Death rate computed on population of 223,542 (health census, 1907).
[d] Death rate computed on population of 234,409 (health census, 1910).

Mortality compared with same period of previous years.

	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901	2,327	38.58	2,419	39.52	2,077	33.69	2,561	41.54
1902	2,236	37.07	4,433	72.70	5,067	82.19	2,715	44.04
1903	1,652	27.39	1,911	31.34	2,710	43.91	3,086	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,982	35.64	1,848	33.72	3,468	62.59	1,934	34.90
1907	1,569	28.43	1,280	22.98	1,986	34.33	2,502	44.43
1908	2,570	46.14	1,967	34.77	3,457	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55	2,019	35.85	2,317	41.14
1910	2,009	34.78	1,844	31.57	2,194	37.15	1,982	33.56
1911	1,763	30.52	1,849	31.65				

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)		1	2		27	21			51
3. Relapsing fever						1			1
4. Intermittent fever and malarial cachexia	1				48	40	8		97
4a. Malarial cachexia					6	6			12
8. Whooping cough		1			2	3			6
9. Diphtheria and croup		1							1
9a. Diphtheria					6	7			13
10. Influenza	1				27	13			41
12. Asiatic cholera	1			1	82	51	1		136
14. Dysentery	2		3		70	56	1		132
17. Leprosy					10	3			13
18. Erysipelas					6	7			13
19. Other epidemic diseases (beriberi)					799	651	30		1480
20. Purulent infection and septicæmia	1			1	14	5			21
22. Malignant pustule						1			1
23. Rabies						1			1
26. Tuberculosis of the larynx					6	2			8
27. Tuberculosis of the lungs	1	1	4	1	525	458	62		1062
28. Tuberculosis of the meninges	1				29	23			53
29. Abdominal tuberculosis	2			1	21	16			40
30. Pott's disease					1	1			2
32. White swelling					1	1			2

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases—Continued.									
33. Tuberculosis of other organs	1				1	2			4
34. General tuberculosis					2	10			12
35. Scrofula					2				2
36. Syphilis			1				1		2
38. Gonorrhea (under 5 years)					1				1
39. Cancer and other malignant tumors of the buccal cavity					3	9	1		13
40. Cancer and other malignant tumors of the stomach, liver			3		6	12			21
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum					5	1			6
42. Cancer and other malignant tumors of the female genital organs						8			8
43. Cancer and other malignant tumors of the breast		1		1		3			5
44. Cancer and other malignant tumors of the skin						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified					11	1	2		14
46. Other tumors (tumors of the female genital organs excepted)					1				1
47. Acute articular rheumatism			1		7	4			12
48. Chronic rheumatism and gout					8	7			15
49. Scurvy						2			2
50. Diabetes			2	1	2				5
51. Exophthalmic goiter						2			2
54. Anæmia, chlorosis					4	3			7
56. Alcoholism acute or chronic			1						1
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis					1				1
61. Simple meningitis					34	37			71
62. Progressive locomotor ataxia				1	1	1	5		8
63. Other diseases of the spinal cord					3	1			4
64. Congestion and hemorrhage of the brain	2		2	1	46	39	2		92
65. Softening of the brain					2		11		13
66. Paralysis without specified cause					4	4	4		12
67. General paralysis					7	5			12
68. Other forms of mental alienation					8	3	2		13
69. Epilepsy					4	2			6
71. Convulsions (under 5 years)					268	231	3	3	500
72. Tetanus	1				99	76	4	1	181
73. Chorea						1			1
74. Other diseases of the nervous system	1		1		1	1			4
76. Diseases of the ear					2				2
III. Diseases of the circulatory system.									
77. Pericarditis					4				4
78. Acute endocarditis	1				7	6			14
79. Organic diseases of the heart	2		1	1	32	35	23		94
80. Angina pectoris					12	5	1		18
81. Diseases of the arteries (atheroma, aneurism etc.)	1	1	1		8	7	1		19
82. Embolism and thrombosis		1			3	3			7
84. Diseases of the lymphatic system (lymphangitis, etc.)					2	1			3
85. Hemorrhage; other diseases of the circulatory system					1	2			3
IV. Diseases of the respiratory system.									
88. Diseases of the larynx			1			1			2
89. Diseases of the thyroid body						1			1
90. Acute bronchitis		1	3		354	316	1	1	676
91. Chronic bronchitis			1		188	198	14	3	404
92. Broncho-pneumonia	1	1			55	39	1	1	98
93. Pneumonia					38	41	1		80
94. Pleurisy					7	2			9
95. Congestion and apoplexy of the lungs					2	5			7
96. Gangrene of the lungs					1				1
97. Asthma					11	4	2		17
98. Pulmonary emphysema					1	2			3
99. Other diseases of the respiratory system tuberculosis excepted)					3		1		

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa						1			1
101. Diseases of the pharynx					2	1			3
102. Diseases of the esophagus							3		3
103. Ulcer of the stomach					1	2		1	4
104. Other diseases of the stomach (cancer excepted)			1		9	4			14
105. Diarrhea and enteritis (under 2 years)	2				128	105			235
105a. Chronic diarrhea and enteritis (under 2 years)					50	63			113
106. Diarrhea and enteritis (2 years and over)			1	2	75	66			144
107. Intestinal parasites					5	7			12
108. Hernias and intestinal obstructions					14	10	1		25
110. Acute yellow atrophy of the liver			1		9	8	1		19
112. Cirrhosis of the liver			2		9	4			15
113. Biliary calculi					1	3			4
114. Other diseases of the liver					12	12			24
115. Diseases of the spleen					1				1
116. Simple peritonitis (nonpuerperal)		1	1		6	9			17
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1	1			2
118. Appendicitis and abscess of the iliac fossa					4	3			7
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis	1				16	17			34
120. Bright's disease	1	1	2		45	55	3		107
121. Other diseases of the kidneys and their adnexa						2			2
122. Calculi of the urinary tract					5				5
123. Diseases of the bladder	1				2				3
126. Nonvenereal diseases of the male genital organs							1		1
128. Uterine hemorrhage (nonpuerperal)						2			2
129. Uterine tumor (noncancerous)						2			2
131. Cysts and other tumors of the ovary						2			2
132. Other diseases of the female genital organs				1		1			2
VII. The puerperal state.									
134. Accidents of pregnancy						4			4
135. Puerperal hemorrhage				1		15			16
136. Other accidents of labor						3			3
137. Puerperal septicæmia				1		17			18
138. Puerperal albuminuria and convulsions						6			6
140. Other puerperal accidents—sudden death						2			2
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene					1	2			3
143. Furuncle			1			3			4
144. Acute abscess, phlegmon					3	4	1		8
145. Other diseases of the skin and its adnexa					3				3
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones					11	8	2		21
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)							1		1
X. Malformations.									
150. Congenital malformations (stillbirths excluded)				1	2	6			9
XI. Early infancy.									
151. Congenital debility, icterus and sclerema		3			355	278	3	5	644
152. Other diseases peculiar to early infancy	1				13	22			36
153. Lack of care			1		8	7	2		18
XII. Old age.									
154. Senile debility			1		116	173	1		293
XIII. External causes.									
155. Suicide by poison								1	1
156. Suicide by asphyxia									
157. Suicide by hanging or strangulation					1		1		2
158. Suicide by drowning					1				1
159. Suicide by firearms	1								1
160. Suicide by cutting instruments			1						1
164. Fractures			1		5	1			7

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
XIII. External causes—Continued.									
165. Dislocations									
166. Other accidental traumatisms	1				18	4	2		25
167. Burns and scalds	1		1	1	6	7			16
172. Accidental drowning					8	4	3		15
173. Inanition (starvation)									
174. Absorption of deleterious gases (nonsuicidal)									
175. Other acute poisonings	1				1	3			5
176. Other external violence									
XIX. Ill-defined diseases.									
178. Sudden death					1				1
179. Causes of death unspecified or ill defined	2	1			67	52	5		127
Total	82	15	41	16	3,954	3,502	212	16	7,788
Grand total	47		57		7,456		228		7,788

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)		1	2		4				7
4. Intermittent fever and malarial cachexia			1		3	4			8
4a. Malarial cachexia					1	1			2
8. Whooping cough					1				1
9a. Diphtheria						2			2
10. Influenza					1				1
12. Asiatic cholera					10	5	1		16
14. Dysentery	1		1		3	6			11
17. Leprosy					7	2			9
19. Other epidemic diseases (beriberi)			1		22	12			35
27. Tuberculosis of the lungs	1		4		100	22	3		130
28. Tuberculosis of the meninges					1				1
29. Abdominal tuberculosis					1	1			2
30. Pott's disease						1			1
33. Tuberculosis of other organs					1				1
34. General tuberculosis		1	1		3	1			6
36. Syphilis					1				1
39. Cancer and other malignant tumors of the buccal cavity					1		1		2
40. Cancer and other malignant tumors of the stomach and liver	1				4	1			6
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					1				1
42. Cancer and other malignant tumors of the female genital organs						4			4
43. Cancer and other malignant tumors of the breast						2			2
44. Cancer and other malignant tumors of the skin					1				1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1	4	1			7
54. Anæmia, chlorosis					1				1
II. Diseases of the nervous system and of the organs of special sense.									
61. Simple meningitis			1		3	1			5
62. Progressive locomotor ataxia		1							1
64. Congestion and hemorrhage of the brain	1				4	2			7
65. Softening of the brain							1		1
68. Other forms of mental alienation					3	2			5
71. Convulsions (under 5 years)					10	9			19
72. Tetanus					5	3			8

Number of deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
78. Acute endocarditis				1					1
79. Organic diseases of the heart			2	1	6	2	1		12
80. Angina pectoris						1			1
81. Diseases of the arteries (atheroma, aneurism, etc.)					3	1			4
82. Embolism and thrombosis			1						1
83. Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)		1							1
IV. Diseases of the respiratory system.									
90. Acute bronchitis					5	6			11
91. Chronic bronchitis					7	8			15
92. Broncho-pneumonia					6	2			8
93. Pneumonia					12	3			15
97. Asthma						1			1
99. Other diseases of the respiratory system (phthisis excepted					1				1
V. Diseases of the digestive system.									
103. Ulcer of the stomach			1		1				2
104. Other diseases of the stomach (cancer excepted)					2				2
105. Diarrhea and enteritis (under 2 years)					5	4			9
105a. Chronic diarrhea and enteritis (under 2 years)					3	4			7
106. Diarrhea and enteritis (2 years and over)			1		4	2			7
108. Hernias and intestinal obstructions	1				1	2			4
110. Acute yellow atrophy of the liver						1			1
112. Cirrhosis of the liver			1		2	1			4
113. Biliary calculi						1			1
114. Other diseases of the liver			2		4		1		7
116. Simple peritonitis (nonpuerperal)					2	1			3
118. Appendicitis and abscess of the iliac fossa					4				4
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					2				2
120. Bright's disease	1				3	3			7
121. Other diseases of the kidneys and their adnexa					3				3
122. Calculi of the urinary tract					1	2			3
125. Diseases of the prostate					1				1
131. Cysts and other tumors of the ovary						1			1
VII. The puerperal state.									
136. Other accidents of labor						1			1
137. Puerperal septicæmia						2			2
138. Puerperal albuminuria and convulsions		1							1
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle					1				1
144. Acute abscess, phlegmon					1				1
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	1				2	7			10
153. Lack of care					2				2
XII. Old age.									
154. Senile debility					1	4			5
XIII. External causes.									
164. Fractures					2				2
166. Other accidental traumatisms					4				4
167. Burns and scalds					3	2			5
175. Other acute poisonings	1								1
176. Other external violence					8				8
XIV. Ill-defined diseases.									
178. Sudden death					1				1
179. Causes of death unspecified or ill defined				1	1	1	1		4
Total	8	5	20	4	300	145	9		491
Grand total	13		24		445		9		491

Number of deaths by nationality, sex, and age.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)													1								3	1					4	5				
3. Relapsing fever																						1										
4. Intermittent fever and malarial cachexia						1							2	4							5	12					7	9				
4a. Malarial cachexia													1									1					1					
8. Whooping cough										1			1	1							1	2					1					
9. Diphtheria and croup																		1														
9a. Diphtheria													2								2	5					1	3				
10. Influenza													15	2							7	2						3				
12. Asiatic cholera													5	1							22	12					7	5				
14. Dysentery						1					1		8	8							37	26					5	4				
18. Erysipelas					4	1							2	4								2										
19. Other epidemic diseases (beriberi)					28	25							707	540	1						38	37	2				4	5				
20. Purulent infection and septicæmia				1		2							2								2	1										
27. Tuberculosis of the lungs													13	3							38	26					12	9				
28. Tuberculosis of the meninges									1				9	11							16	8					3	3				
29. Abdominal tuberculosis																					8	4					1	1				
30. Pott's disease																												2				
32. Whiteswelling														1																		
33. Tuberculosis of other organs																						1						1				
34. General tuberculosis													1	2				1			1	3										
35. Scrofula													1								1											
38. Gonorrhœa (under 5 years)					1																											
49. Scurvy														1								1										
54. Anæmia, chlorosis														1							1						1					
II. Diseases of the nervous system and the organs of special sense.																																
60. Encephalitis													1																			
61. Simple meningitis						2							15	20							17	13					3					
63. Other diseases of the spinal cord																					1							1				
64. Congestion and hemorrhage of the brain					1																2											
69. Epilepsy														1							1											
71. Convulsions (under 5 years)					64	57		1					201	175	2	2					8	8	1									
72. Tetanus	1				89	64		1					1								1	1					2	2				
73. Chorea																						1										
74. Other diseases of the nervous system																						1										
76. Diseases of the ear																					1						1					

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones													5	5							6	1							1			
X. Malformations.																																
150. Congenital malformations (stillbirths excepted)					1	4								2						1							1				
XI. Early infancy.																																
151. Congenital debility, icterus and sclerema	1	3			280	219	3	5					77	66																		
152. Other diseases peculiar to early infancy	1				12	20							1	2																		
153. Lack of care			1		1	1							9	6	2																	
XIII. External Causes.																																
166. Other accidental traumatisms																													1			
167. Burns and scalds																					2	3							1			
172. Accidental drowning																						1										
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined					2	1			2	1			47	40							11	7							4	2		
Total	3	3	1	1	499	417	3	7	4	4	2		1,690	1,362	6	2	1	4	3	1	551	549	3	4	1				76	72		
Grand total	6		2		916		10		8		2		3,052		8		5		4		1,100		7		1				148			

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)					4	8							7	2				1			2	1					2		2	2		
4. Intermittent fever and malarial cachexia						2							5	1	1						6	1					1		4	1	2	
4a. Malarial cachexia													1	1															1	1		
9a. Diptheria																					1											
10. Influenza													1								2	1							1	1		
12. Asiatic cholera					6	2	1						7	2						1	5	7							7	9		
14. Dysentery					1								2	2							2	4							1	4		
17. Leprosy													2								2	1							3	1		
19. Other epidemic diseases (beriberi)					2	4							3	7	2						4	11							6	7	1	
20. Purulent infection and septicæmia						1															1				1				4			
26. Tuberculosis of the larynx																					1								1			
27. Tuberculosis of the lungs					6	4	1						30	17	1					1	71	88	3				1		75	71	2	
28. Tuberculosis of the meninges													1	1																		
29. Abdominal tuberculosis													2	1						1		1							4	2		
30. Pott's disease													1																			
34. General tuberculosis					1	1																1							1	2		
39. Cancer and other malignant tumors of the buccal cavity																							1									
40. Cancer and other malignant tumors of the stomach and liver													1									1								1		
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum																					1											
42. Cancer and other malignant tumors of the female genital organs														1																		
44. Cancer and other malignant tumors of the skin													1																			
46. Other tumors (tumors of the female genital organs excepted)					1																											
47. Acute articular rheumatism						1															1								1			
48. Chronic rheumatism and gout																													1			
51. Exophthalmic goiter																						1										
54. Anæmia, chlorosis																					2											
II. Diseases of the nervous system and of the organs of special sense.																																
61. Simple meningitis													1	1							1						1					
62. Progressive locomotor ataxia																												1				
63. Other diseases of the spinal cord																													1			
64. Congestion and hemorrhage of the brain													3	2																3		
65. Softening of the brain																															1	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense—Continued.																																
67. General paralysis																					1							1				
68. Other forms of mental alienation														2							1							1	1			
69. Epilepsy													1									1										
72. Tetanus					3	4								1							3	2						1				
74. Other diseases of the nervous system																					1											
III. Diseases of the circulatory system.																																
77. Pericarditis																												1				
78. Acute endocarditis						1							1															1				
79. Organic diseases of the heart					2	1							2								4	1						2				
80. Angina pectoris																						1						1	1			
82. Embolism and thrombosis																					1											
84. Diseases of the lymphatic systematic (lymphangitis, etc.)					1									1																		
85. Hemorrhages																												1				
IV. Diseases of the respiratory system.																																
90. Acute bronchitis																												1	1			
92. Broncho-pneumonia						1								1							2								1			
93. Pneumonia					2		1						6	1							3	3						4	3			
94. Pleurisy																													1			
95. Congestion and apoplexy of the lungs						1																							1			
97. Asthma																					1											
V. Diseases of the digestive system.																																
101. Diseases of the pharynx					1																1	1										
103. Ulcer of the stomach															1						1											
106. Diarrhea and enteritis (2 years and over)					1								1	1															1			
107. Intestinal parasites					1																											
108. Hernias and intestinal obstructions													2								1	1						1	1			
110. Acute yellow atrophy of the liver					1									1								1					1	1	1			
112. Cirrhosis of the liver																					1							1	2			
113. Biliary calculi																												1				
114. Other diseases of the liver					1																1	1							1			

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)			1		1	1				1			4	2							1											
4. Intermittent fever and malarial cachexia	1				4	4							2	4							5	2	4						6			
4a. Malarial cachexia														1							2	1								1		
9a. Diphtheria						1																										
10. Influenza	1													1																2		
12. Asiatic cholera	1				7	6							7	3							4	3	1						1	2		
14. Dysentery	1		1		2	2			2				2	1									1			1			1	2		
17. Leprosy					3	1							2								1								1			
19. Other epidemic diseases (beriberi)			1		4	4	4						4	7	5						6	6	4						5	2	6	
20. Purulent infection and septicæmia					1																2	1										
26. Tuberculosis of the larynx						1							1								2											
27. Tuberculosis of the lungs	1		1		71	50	13						72	58	20				1		44	44	10			1			48	44	8	
29. Abdominal tuberculosis	1					3							4	1								2							1			
32. White swelling													1																			
33. Tuberculosis of other organs													1																			
34. General tuberculosis					1									1												1			1			
36. Syphilis																					1					1						
39. Cancer and other malignant tumors of the buccal cavity																													1	2		
40. Cancer and other malignant tumors of the stomach and liver	1				1	1							2	2												1				1		
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum																					1									1		
42. Cancer and other malignant tumors of the female genital organs						1								3					1			3								1		
43. Cancer and other malignant tumors of the breast						1																2								1		
44. Cancer and other malignant tumors of the skin																						1										
45. Cancer and other malignant tumors of other organs or of organs not specified							2						3								2											
47. Acute articular rheumatism					1								1								1	1										
48. Chronic rheumatism and gout																													2			
50. Diabetes																					1											
51. Exophthalmic goiter														1																		
54. Anæmia, chlorosis					1	1																										

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Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
V. Diseases of the digestive system—Continued.																																
113. Biliary calculi						1																						1				
114. Other diseases of the liver					1		1				1		4	1					1		1	1					2	1				
115. Diseases of the spleen					1																											
116. Simple peritonitis (nonpuerperal)		1			2	2							1																			
118. Appendicitis and abscess of the iliac fossa					2	1																						1				
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis	1												1	1							1							2				
120. Bright's disease					2	3			1				1	7							3	2						1	2	1		
122. Calculi of the urinary tract					2	1																										
126. Nonvenereal diseases of the male genital organs																						1										
128. Uterine hemorrhage (nonpuerperal)																						1										
129. Uterine tumor (noncancerous)																						1										
131. Cysts and other tumors of the ovary						1																										
132. Other diseases of the female genital organs												1										1										
VII. The puerperal state.																																
134. Accidents of pregnancy						2								1																		
135. Puerperal hemorrhage						2								1								1										
136. Other accidents of labor														1								1										
137. Puerperal septicæmia						5								1														1				
138. Puerperal albuminuria and convulsions						1								1																		
VIII. Diseases of the skin and cellular tissue.																																
143. Furuncle			1																													
144. Acute abscess, phlegmon					1									1							1		1									
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones							1							1																		

XIII. External causes.																																
157. Suicide by hanging or strangulation														1						1												
159. Suicide by firearms	1																															
160. Suicide by cutting instruments																	1															
164. Fractures					1																											
166. Other accidental traumatisms					3			1			1	1	1						1		1											
167. Burns and scalds						1		1			1						1												1			
172. Accidental drowning					1						2	1	1																1			
175. Other acute poisonings	2					1																										
176. Other external violence					2						1									1												
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined					2		2			1											1											
Total	12	2	5		140	113	80	7	1	4	2	145	117	46		3	1	9	1	106	92	32		1		6	1	102	80	28			
Grand total	14		5		253		80	8		6		262		46		4		10		198		32		1		7		182		28		

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases.																									
1. Typhoid fever (abdominal typhus)			1		2	4												2	4		31	21			58
4. Intermittent fever and malarial cachexia					6	3	1										1		1		51	44	8		105
4a. Malarial cachexia					1	1															7	7			14
8. Whooping cough																		1			3	3			7
9. Diphtheria and croup																		1							1
9a. Diphtheria																					6	9			15
10. Influenza					2	1											1				28	13			42
12. Asiatic cholera					14	4											1			1	92	56	2		152
14. Dysentery			1		12	8											3		4		78	62	1		143
17. Leprosy					3	2															17	5			22
18. Erysipelas																					6	7			13
19. Other epidemic diseases (beri-beri)					10	8	5												1		821	663	30		1,515
20. Purulent infection and septicæmia					2												1			1	14	5			21
22. Malignant pustule						1																1			1
23. Rabies						1																1			1
26. Tuberculosis of the larynx					1	1															6	2			8
27. Tuberculosis of the lungs	1	1	4		145	116	6								1		2	1	8	1	625	480	65		1,182
28. Tuberculosis of the meninges					1												1				30	23			54
29. Abdominal tuberculosis	1				2	2											2			1	22	17			42

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases—Continued																									
30. Pott's disease																					1	2			3
32. White swelling																					1	1			2
33. Tuberculosis of other organs	1				1												1				2	2			5
34. General tuberculosis																		1	1		5	11			18
35. Scrofula																					2				2
36. Syphilis							1												1		1		1		3
38. Gonorrhea (under 5 years)																					1				1
39. Cancer and other malignant tumors of the buccal cavity					3	7	1														4	9	2		15
40. Cancer and other malignant tumors of the stomach and liver			2		6	7											1		3		10	13			27
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					4																6	1			7
42. Cancer and other malignant tumors of the female genital organs						8																12			12
43. Cancer and other malignant tumors of the breast				1		1												1		1		5			7
44. Cancer and other malignant tumors of the skin																					1	1			2
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1	10	2													1	1	15	2	2		21
46. Other tumors (tumors of the female genital organs excepted)																					1				1
47. Acute articular rheumatism			1		2	2													1		7	4			12
48. Chronic rheumatism and gout					5	7															8	7			15
49. Scurvy																						2			2
50. Diabetes			2	1	1														2	1	2				5
51. Exophthalmic goiter																							2		2
54. Anæmia, chlorosis						1															5	3			9
56. Acute and chronic alcoholism			1																1						1
II. Diseases of the nervous system and organs of special sense.																									
60. Encephalitis																					1				1
61. Simple meningitis													1						1		37	38			76
62. Progressive locomotor ataxia		1				1	2											1		1	1	1	5		9
63. Other diseases of the spinal cord																					3	1			4
64. Congestion and hemorrhage of the brain					29	28	1										3		2	1	50	41	2		99
65. Softening of the brain					1		2														2		12		14
66. Paralysis without specified cause					3	3	1														4	4	4		12
67. General paralysis					3	4															7	5			12
68. Other forms of mental alienation							1						3	1							11	5	2		18

69. Epilepsy																						4	2			6
71. Convulsions (under 5 years)																						273	240	3	3	519
72. Tetanus					2	2												1				104	79	4	1	189
73. Chorea																							1			1
74. Other diseases of the nervous system			1															1		1		1	1			4
76. Diseases of the ear																						2				2
III. Diseases of the circulatory system.																										
77. Pericarditis																						4				4
78. Acute endocarditis					2													1			1	7	6			15
79. Organic diseases of the heart				2	15	23	6		1									2		3	2	38	37	24		106
80. Angina pectoris					5	1																12	6	1		19
81. Diseases of the arteries, atheroma, aneurism, etc		1	1		10	7												1	1	1		11	8	1		23
82. Embolism and thrombosis																			1	1		3	3			8
83. Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)																			1							1
84. Diseases of the lymphatic system (lymphagitis, etc.)																						2	1			3
85. Hemorrhages																						1	2			3
IV. Diseases of the respiratory system.																										
88. Diseases of the larynx			1																	1			1			2
89. Diseases of the thyroid body						1																	1			1
90. Acute bronchitis			1		1														1	3		359	322	1	1	687
91. Chronic bronchitis					13	12	12	1												1		195	206	14	3	419
92. Broncho-pneumonia					6	1	1											1	1			61	41	1	1	106
93. Pneumonia					4	9																50	44	1		95
94. Pleurisy					3																	7	2			9
95. Congestion and apoplexy of the lungs					1	1																2	5			7
96. Gangrene of the lungs					1																	1				1
97. Asthma					6	1	2															11	5	2		18
98. Pulmonary emphysema						2																1	2			3
99. Other diseases of the respiratory system (tuberculosis excepted)					2		1															4		1		5
V. Diseases of the digestive system.																										
100. Diseases of the mouth and its adnexa																							1			1
101. Diseasis of the pharynx																						2	1			3
102. Diseases of the esophagus																								3		3
103. Ulcer of the stomach						1														1		2	2		1	6
104. Other diseases of the stomach (cancer excepted)					3	1														1		11	4			16
105. Diarrhea and enteritis (under 2 years)																		2				133	109			244
105a. Chronic diarrhea and enteritis (under 2 years)																						53	67			120
106. Diarrhea and enteritis (2 years and over)			1	1	3	5														2	2	79	68			151
107. Intestinal parasites					1																	5	7			12
108. Hernia and intestinal obstructions					1	2	1											1				15	12	1		29
110. Acute yellow atrophy of the liver					2		1													1		9	9	1		20
112. Cirrhosis of the liver			2		5	2														3		11	5			19
113. Biliary calculi						2																1	4			5
114. Other diseases of the liver					2	2														2		16	12	1		31

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
V. Diseases of the digestive system—Continued.																									
115. Diseases of the spleen						1															1				1
116. Simple peritonitis (nonpuerperal)													1					1	1		8	10			20
117. Other diseases of the digestive system (cancer and tuberculosis excepted						1															1	1			2
118. Appendicitis and abscess of the iliac fossæ					1																8	3			11
VI. Diseases of the genito-urinary system and its adnexa.																									
119. Acute nephritis					1	2											1				18	17			36
120. Bright's disease	1		2		30	20	1										2	1	2		48	58	3		114
121. Other diseases of the kidneys and their adnexa					1	1															3	2			5
122. Calculi of the urinary tract					2	1															6	2			8
123. Diseases of the bladder	1				2												1				2				3
125. Diseases of the prostate					1																1				1
126. Nonvenereal diseases of the male genital organs																							1		1
128. Uterine hemorrhage (nonpuerperal)																						2			2
129. Uterine tumor (noncancerous)						1																2			2
131. Cysts and other tumors of the ovary																						3			3
132. Other diseases of the female genital organs																				1		1			2
VII. The puerperal state.																									
134. Accidents of pregnancy																						4			4
135. Puerperal hemorrhage																				1		15			16
136. Other accidents of labor																						4			4
137. Puerperal septicæmia																				1		19			20
138. Puerperal albuminuria and convulsions																		1				6			7
140. Other puerperal accidents—sudden death																						2			2
VIII. Diseases of the skin and cellular tissues.																									
142. Gangrene						1															1	2			3
143. Furuncle					1	2													1		1	3			5
144. Acute abscess, phlegmon						1															4	4	1		9
145. Other diseases of the skin and its adnexa																					3				

IX. Diseases of the organs of locomotion.																									
146. Nontuberculous diseases of the bones						1														11	8	2			21
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)							1															1			1
X. Malformations.																									
150. Congenital malformations (stillbirths excepted)																			1	2	6				9
XI. Early infancy.																									
151. Congenital debility, icterus, and sclerema																1	3			357	285	8	5		654
152. Other diseases peculiar to early infancy																1				18	22				86
153. Lack of care																		1		10	7	2			20
XII. Old age.																									
154. Senile debility			1		119	177	1											1		119	177	1			298
XIII. External causes.																									
155. Suicide by poison																							1		1
157. Suicide by hanging or strangulation																				1		1			2
158. Suicide by drowning																				1					1
159. Suicide by firearms																1									1
160. Suicide by cutting instruments																		1							1
164. Fractures			1		1							1						1		7	1				9
166. Other accidental traumatisms					2	2						1	1			1				22	4	2			29
167. Burns and scalds					2	3						1				1		1	1	9	9				21
172. Accidental drowning														1						8	4	3			15
175. Other acute poisonings																2				1	3				6
176. Other external violence					2															8					8
XIV. Ill-defined diseases.																									
178. Sudden death																				2					2
179. Causes of death unspecified or ill-defined					2	2	2							2		2	1		1	68	58	6			131
Total	5	3	24	6	524	509	50	1	2			6	4	4		40	20	61	20	4,254	3,647	221	16		8,279
Grand total	8		30		1,033		51		2			10		4		60		81		7,901		237			8,279

Infant mortality.

Causes of deaths.	Mother milk.		Wet nurse.		Other milk.		Not milk.		Mixed.		Not stated.			Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	
Abscess	1													1
Acute yellow-atrophy of the liver		1				1								2
Anemia, malnutrition													1	1
Asphyxia											8	1		9
By compression of cord											1			1
Due to prolonged labor											3	1		4
Atelectasis											2			2
Bacillus coli communis infection		1												1
Beriberi	46	1,058		2	2	61			2	19		2	86	1,278
Endocarditis		1										1		2
Myocarditis						1								1
Bronchitis:														
Acute	15	876			1	70				12		2	31	507
Pneumonia													1	1
Capillary		10				2							1	13
Chronic		122				58				11			10	201
Chronic and enteritis		1												1
From Influenza													1	1
Subacute		2												2
Broncho-pneumonia	1	22		1	1	8							8	41
Acute		1												1
Chronic colitis						1								1
Diphtheria and stomatitis													1	1
Cholera		2				2							1	5
Colitis:														
Chronic						1								1
Chronic and lobular pneumonia													1	1
Congenital atelectasis												1		1
Congenital debility	238	38	1		55	56	15		2	3	92	59	4	563
Congenital debility and enteritis, chronic						1								1
Congenital debility and icterus	1													1
Congenital heart disease												1		1
Congenital heart disease and chronic parenchymatous nephritis													1	1
Congenital malformation of cord		1									1			2
Congenital osteomalacia													1	1
Congenital strangulated hernia												1		1
Convulsions (acute dyspepsia)													1	1
Convulsions:														
Caused by whooping cough													1	1
Infantile	98	287			17	61			1	5	1	10	24	499
Due to difficult dentition													1	1
Due to intense gastralgia													1	1
Probably due to parasites of intestines						1								1
Debility and anemia from premature separation of placenta											1			1
Dentition													1	1
Diarrhea and enteritis		3				8								11
Chronic		1				3								4
Dilatation of heart		1												1
Diphtheria													1	1
Dysentery:														
Acute		1			1	6				1			4	13
Amebic						1								1
Bacillary						1								1
Chronic						1								1
Dyspepsia:														
Acute													1	1
Gastro-intestinal										1				1
Eclampsia, infantile													2	2
Eczema, chronic		2												2
Empyema sinistra, broncho-pneumonia, laryngitis, furunculosis, ulcerative stomatitis													1	1
Encephalitis		1												1
Enteritis:														
Acute		15			2	23						1	3	44
Chronic		6				12				2			6	26
Subacute		1				1								2
Entero-colitis						1				1				2
Chronic						1								1

Infant mortality—Continued.

Causes of deaths.	Mother milk.		Wet nurse.		Other milk.		Not milk.		Mixed.			Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	
Epilepsy		1												1
Erysipelas	2	3								1		2		8
Due to umbilical infection	1													1
Genital organs and thigh		1												1
Furunculosis		1												1
Gastritis:														
Acute		1												1
Chronic						1								1
Gastro-enteritis:														
Acute		24				13				4		1	6	68
With broncho-pneumonia													1	1
Chronic		2				4				1			3	10
With malnutrition												1	1	2
Subacute													1	1
With bronchitis						2				1				3
Influenza		8				1							6	15
With myocarditis		1												1
Hemophilia												1		1
Hemorrhagia neonatorum	1	1					1					7		10
Hemorrhage:														
Of cord	2				2							4		8
Of right cerebellum												1		1
Icterus	29	11				4				1			1	46
Catarrhal						1								1
Icterus neonatorum	3				1	1						1		6
And enteritis, acute												1		1
Imperforate anus and intestinal obstruction												1		1
Inanition		1											1	2
With broncho-pneumonia												1		1
Infantile convulsions, high fever of infectious character (*Coli bacillosis*)						1								1
Intermittent fever	1	3				3								7
Jaundice						1								1
Lobular pneumonia		1											1	2
Malarial cachexia		1												1
Malnutrition					1	13				1		2	3	20
And broncho-pneumonia													1	1
Marasmus		20				97				10			2	129
And gastro-enteritis, chronic						1								1
And malnutrition						1								1
Meningitis and abscess of hip		1												1
Meningitis:														
Acute	1	17				4		1		1		1	3	28
Cerebral		5				1								6
Cerebro-spinal		2				1								3
Simple, of gastro-intestinal origin													1	1
Nephritis:														
Acute		7				3							7	17
Chronic		2				1				1				4
Chronic and difficult dentition													1	1
Nonclosure foramen ovale	1										1			2
Obstruction, intestinal		1				1								2
Organic lesion of heart (fatty degeneration)		1												1
Atrepsia		3				28				3		2	3	39
Pericarditis, purulent													1	1
Peritonitis, acute, broncho-pneumonia												1		1
Phlegmon of left side and erysipelas		1												1
Pneumonia		12				6				1			6	25
Septic													1	1
Premature baby and congenital debility											2	1		3
Premature birth	1										4	4		9
Pulmonary congestion	1													1
Purulent bronchitis		1												1
Purulent infection		1												1
Rickets		2				6							1	9
Scurvy													1	1

Infant mortality—Continued.

Causes of deaths.	Mother milk.		Wet nurse.		Other milk.		Not milk.		Mixed.			Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	
Sepsis and inflammation of cord	----	1	----	----	----	----	----	----	----	----	----	----	----	1
Sepsis (etiology unknown)	----	----	----	----	----	----	----	----	----	----	----	1	----	1
Septicemia and gastro-enteritis	----	----	----	----	----	1	----	----	----	----	----	----	----	1
Septicemia due to cord infection	----	----	----	----	----	----	----	----	----	----	----	1	----	1
Septicemia, neonatorum	----	----	----	----	1	----	----	----	----	----	----	1	----	2
Septicemia, probably (furunculosis)	----	----	----	----	----	----	----	----	----	----	----	----	1	1
Spina bifida	----	1	----	----	----	----	----	----	----	----	----	----	----	1
Status lymphaticus	----	----	----	----	----	1	----	----	----	----	----	----	----	1
Tetanus due to abscess	1	----	----	----	----	----	----	----	----	----	----	----	----	1
Tetanus, umbilical	129	----	----	----	4	----	----	----	----	----	----	21	1	155
Tuberculosis:														
Bronchial	----	1	----	----	----	----	----	----	----	1	----	----	----	2
Disseminated	----	2	----	----	----	1	----	----	----	----	----	----	----	3
Of the lungs	----	1	----	----	----	4	----	----	----	----	----	----	8	13
Of the meninges	----	15	----	1	----	2	----	----	----	----	----	----	2	20
Tubercular pneumonia	----	----	----	----	----	----	----	----	----	----	----	----	1	1
Typhoid fever	----	----	----	----	----	1	----	----	----	----	----	----	----	1
Umbilical infection	----	1	----	----	----	----	----	----	----	----	----	----	----	1
Undetermined	1	2	----	----	----	----	----	----	----	1	1	1	----	6
Urethritis, acute	1	----	----	----	----	----	----	----	----	----	----	----	----	1
Whooping cough	----	----	----	----	----	1	----	----	----	----	----	----	----	1
With broncho-pneumonia, acute	----	----	----	----	----	1	----	----	----	----	----	----	----	1
Total	570	2,114	1	4	88	604	16	1	5	82	117	137	285	4,004

Deaths, by occupations.

Occupation.	Number.	
	Males.	Females.
Professional:		
Architects, artists, teachers of art, etc	4	----
Clergymen, priests, nuns, etc	12	4
Engineers and surveyors	1	----
Journalists	----	----
Lawyers	3	----
Musicians and teachers of music	10	----
Nurses and midwives	----	8
Physicians and surgeons	2	----
Teachers (schools)	6	4
Others of this class	6	----
Clerical and official:		
Bookkeepers, clerks, and copyists	112	----
Bankers, brokers, and officials of companies	4	----
Collectors, auctioneers, and agents	3	----
Stenographers and typewriters	----	----
Telegraph and telephone operators	----	----
Others of this class	1	1
Mercantile and trading:		
Apothecaries, pharmacists, etc	3	----
Commercial travelers	1	1
Merchants and dealers	54	4
Hucksters and peddlers	2	2
Shopkeepers	18	60
Others of this class	2	----
Public entertainment:		
Hotel and boarding-house keepers	----	----
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	2	----
Personal services, police and military:		
Barbers and hairdressers	14	1
Janitors and sextons	17	----
Policemen, watchmen, and detectives	12	----
Soldiers, sailors, and marines	7	----
Others of this class	5	----
Laboring and servant:		
Laborers (not agricultural)	----	----
Launderers	11	137
Servants	57	38
Manufacturing and mechanical industry:		
Artificial flower and paper-box makers	----	----
Bakers and confectioners	2	----
Blacksmiths	5	----
Boot, shoe, and slipper makers	9	----
Brewers, distillers, and rectifiers	----	----
Butchers	4	2
Cabinetmakers and upholsterers	----	----
Carpenters and joiners	91	----
Cigar maker and tobacco workers	30	64
Clock and watch repairers	13	----
Compositors, printers, etc	9	2
Coopers	----	----
Embroiderers (gold, silk, etc.)	2	----
Engineers and firemen (not locomotive)	28	9
Glass blowers and glass workers	1	----
Hat and cap makers	8	----
Iron and steel workers	----	----
Leather makers	----	----
Leather workers	5	----
Machinists	7	----

Deaths, by occupations—Continued.

Ocupation.	Number. Males.	Females.
Manufacturing and mechanical industry—Continued.		
Marble and stone cutters	8	
Masons (brick and stone	18	
Mill and factory operatives (textiles)		2
Millers (flour and grist)		
Milliners		
Painters, glaziers, and varnishers	28	
Plumbers, gas and steam fitters	2	
Tailors, dressmakers, and seamsters	31	142
Tinners and tinware makers	8	
Others of this class	29	8
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	19	
Draymen, drivers, and teamsters	48	
Farmers, planters, and farm laborers	57	2
Agriculture, transportation, and other outdoor—Continued.		
Gardeners, florists, nurserymen, etc	2	
Livery-stable keepers and hostlers	1	
Lumbermen and raftsmen	2	
Miners and quarrymen		
Sailors, pilots, fishermen, and oystermen	70	4
Steam railroad employees	3	
Stock raisers, herders, and drovers	2	1
Others of this class	6	
All other occupations	80	84
Total	1,527	535
Grand total	2,062	

Bilibid prison report of sick.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Abortion, accidental		8		8	
Abscess	10	50		60	
Alveolar		3		3	
Foot		3		3	
Gluteal region		1		1	
Ischio-rectal		7		7	
Left arm		1		1	
Lungs		2		2	
Leg		3		2	1
Thigh		1		1	
Perineal		1		1	
Adenitis	1	2		3	
Axillary, tubercular		1		1	
Axillary, suppurative		1		1	
Cervical, tubercular		2		1	1
Inguinal, venereal		3		3	
Alcoholism		1		1	
Amebiasis	1	254	1	237	17
Amblyopia		1			1
Amputation:					
Fifth toe, right foot		1		1	
Fourth and fifth fingers, right foot		1		1	
Of finger		2		1	1
Fourth finger, left hand		1		1	
Anemia	1	1		2	
Ankylostomiasis	6	757		752	11
Aortic and mitral stenosis		1	1		
Aortic aneurysm		1	1		
Aortic stenosis		2		2	
Appendicitis:					
Chronic, recurrent		3		3	
Acute, suppurative, and septic peritonitis		1	1		
Recurrent		4		4	
Appendectomy		1			1
Arterio-sclerosis		5		2	3
Arthritis, purulent	1			1	
Ascites		1		1	
Asthenia	2	19		21	
Asthma, bronchial		9		7	2
Balantidium coli infection		2		2	
Balanitis		8		8	
Beriberi	4	5		8	1
Blindness		1		1	
Bronchitis:					
Acute	5	74		78	1
Chronic	8	37		45	0
Bubo		1		1	
Burns		2		2	
Bunions		1		1	
Burns with carbolic acid		3		3	
Callosities		1		1	
Cancer of liver		1	1		
Carbuncle, right side		1		1	
Carbuncle	1			1	
Carbuncle, back of neck		2		2	
Carcinoma of rectum	1			1	
Carcinoma of stomach		1		1	
Cataract			1		
Chancroids	1	1		2	
Chancroid, glans penis		2		1	1
Cholelithiasis		2		1	1
Cholera morbus		1		1	
Circumcision		4		4	
Colic:					
Hepatic	1	3		4	
Intestinal		7		7	
Renal		1		1	
Colitis, acute		8		8	
Congestion, pulmonary		20		19	1
Conjunctivitis		5		5	
Constipation	4	45		47	2
Contusions		15		15	
Contusion, right side of chest		1			1
Coryza, acute		6		6	
Cyst:					
Dermoid	1			1	
Sebaceous		4		4	
Cystitis, acute		3		3	
Cellulitis of left great toe		1		1	
Cellulitis of left leg		2		2	
Cerebral hemorrhage		1	1		
Conjunctivitis:					
Right, suppurative		1			1
Traumatic		5		5	
Dengue fever		8		8	
Dhobie itch		1		1	
Diarrhea	1	8		9	

Bilibid prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Dislocation of finger		1		1	
Dysentery:					
Acute		5		5	
Amebic		29		29	
Catarrhal		2		2	
Dyspepsia		12		12	
Eczema, chronic		1			1
Eczema		2		2	
Elephantiasis	1	1		2	
Empyema		3		2	1
Enteritis:					
Acute		1		1	
Catarrhal		2		2	
Esophagismus, and pulmonary and intestinal tuberculosis		1	1		
Exostosis, left humerus		1		1	
Epithelioma of esophagus		1	1		
Febricula		1		1	
Fibroma		3		3	
Filariasis		1		1	
Fistula:					
Anal	3	16		18	1
Submaxillary		1		1	
Foreign body in arm		1		1	
Fracture of femur	1			1	
Fracture:					
Lower third, right tibia		1		1	
Outer third, left clavicle		2		2	
Furunculosis		6		6	
Fever, undetermined		1		1	
Fibroma:					
Coccygeal region		1		1	
Left forearm		1		1	
Foreign body imbedded in right cornea		1		1	
Fracture of left tibia		1		1	
Fracture of upper third, left radius		1			1
Gastralgia	1	14		15	
Gastritis:					
Acute		4		4	
Chronic		5		3	2
Recurrent		1		1	
Gastro-enteritis:					
Acute		3		3	
Chronic		1			1
Gingivitis		1		1	
Gonorrhea		1		1	
Grippe		2		2	
Furuncle of eyelid		2		2	
Furuncle of leg		1		1	
Furunculosis:					
Back of neck		1		1	
Of the scalp		1		1	
Helminthiasis	13	761		766	8
Hematoma	1				1
Hemiplegia	1				1
Hemoptysis		3			3
Hemorrhoids	5	9			14
Hemorrhoids, internal		9			8 1
Hepatic cirrhosis		1			1
Hernia	3	11			14
Inguinal		22	1		18 3
Inguinal, strangulated		2			2
Herpes	1				1
Hydrocele	2	27			29
Hysteria	1	6			7
Intestinal catarrh, chronic		1			1
Infected left leg		1			1
Infected right index finger		1			1
Ingrowing toe nail		1			1
Indigestion	1	5			6
Infected arm, vaccination		2			2
Infected foot		5			4 1
Influenza		18			18
Insanity	1	17			18

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Iritis		1			1
Keratitis		1			1
Locomotor ataxia		1			1
Laryngitis:					
Acute, catarrhal		2		2	
Tuberculous		1		1	
Leprosy		5		4	1
Suspect, proven negative		2		2	
Lipoma	1	3		4	
Lipoma of knee		1		1	
Lumbago		4		4	
Lymph scrotum		1		1	
Lymphadenitis, chronic	1			1	
Lipoma, ischio-rectal fossa		1		1	
Liver, multiple cysts of, cause undetermined	1		1		
Malaria, tertian		2		2	
Malarial fever	3	45		48	
Malarial splenomegalia		2		2	
Malarial cachexia		1			1
Malingering		1		1	
Menopause		1		1	
Migraine		2		2	
Mitral insufficiency		6		5	1
Mitral regurgitation	1	1		2	
Mitral stenosis		1		1	
Morphinism	16	253		254	15
Myalgia		1		1	
Myocarditis	1			1	
Nasal polypus		1		1	
Necrosis of sternum		1			1
Necrosis of right tibia		1		1	
Nephritis:					
Chronic		1			1
Parenchymatous, acute		1	1		
Neuralgia		1		1	
Neurasthenia		4		4	
Neurosis		1		1	
Necrosis of the third right rib, syphilitic		1			1
Necrosis of the palate, syphilitic		1			1
Onychia		1		1	
Opiumism	17	205		213	9
Orchitis		4		4	
Gonorrheal		1		1	
Otitis media, suppurative		1			1
Paragonimiasis	1	1		2	
Paraplegia	2	6		5	3
Parotitis		179		177	2
Parturition		2		2	
Pericarditis, septic, and pneumonia, septic		1	1		
Peritonitis:					
Acute		1	1		
Septic		1	1		
Acute		5		5	
Pleurisy	3	15		18	
Acute, fibrinous		5		4	1
Pneumonia:					
Acute, lobar		1	1		
Broncho	1	14	4	11	
Lobar	2	19	4	16	1
Pott's disease		1			1
Pregnancy	1	6		7	
Prolapse of rectum		1		1	
Pterygium, right eye		1		1	
Rheumatism	2	9		10	1
Articular		6		6	
Muscular		11		9	2
Ringworm		1		1	
Scabies		2		2	
Scalds, foot		1		1	
Sciatica		3		3	
Senile tremor of hands		1		1	
Senility	2	5		5	2
Staphyloma	1			1	

Bilibid prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.	Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Stomatitis		2		2		Tumor, keloid		1		1	
Strain, inguinal		1		1		Ulcers	2	8		8	2
Stricture of rectum		1		1		Urethritis		1		1	
Stricture of urethra		2		2		Gonorrheal		7		7	
Supernumerary digit (thumb)		1		1		Urticaria		1			1
Syphilis	5	20		23	2	Varicella	2	15		16	1
Syphilis and yaws		1		1		Varicocele		2		2	
Tachycardia		1		1		Varioloid		25		25	
Tenia		14		14		Vaccination		1		1	
Tinea circinata		1		1		Wounds		20		20	
Tinea imbricata, chronic		1		1		Wound, foot		1		1	
Tonsillitis, gonorrheal		1		1		Wounds:					
Traumatic stricture of nostrils		1		1		Right thigh, gunshot		1		1	
Traumatism right leg		1		1		Lacerated scalp and arms		1		1	
Tuberculosis:						Toes, left foot		1		1	
Acute, miliary		2	2			Fourth toe, left foot		1		1	
General		1	1			Finger, right hand		1		1	
Generalized empyema of left lung		1	1			Small left toe		1		1	
Of foot		1			1	And fracture of first right phalanx		1		1	
Of rectum		1		1		Contused, scalp		1		1	
Of testicle		5		3	2	Yaws	1	2		3	
Pulmonary	152	88	62	49	129	Under observation		103		97	6
Tarsal bone of right foot		1		1		Undetermined		4		4	
Intestinal		1			1	Total	303	3,694	89	3,649	259

Bilibid Prison report of deaths.

Diseases.	Presidio, Filipinos.		Carcel.						Total.	Condition.				Norte Cemetery.
			Americans.		Filipinos.		Chinese.							
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		Married.	Single.	Widowed.	Unknown.	
Amebiasis	1								1	1				1
Aortic and mitral stenosis	1								1	1				1
Aortic aneurism	1								1			1		1
Appendicitis, acute, suppurative, and septic peritonitis					1				1	1				1
Cancer of the liver	1								1	1				1
Cerebral hemorrhage			1						1		1			1
Epithelioma of esophagus	1								1	1				1
Esophagismus, and pulmonary and intestinal tuberculosis	1								1	1				1
Hernia, inguinal	1								1	1				1
Liver, multiple cysts of, cause undetermined	1								1	1				1
Melancholia, acute							1		1		1			1
Nephritis, parenchymatous, acute	1								1	1				1
Pericarditis, septic, and pneumonia					1				1			1		1
Pericarditis, acute					1				1	1				1
Peritonitis, septic	1								1				1	1
Pneumonia:														
Acute, lobar	1								1		1			1
Broncho	3				1				4	1	1	2		4
Lobar	1				3				4	1	2		1	4
Tuberculosis:														
General	1								1	1				1
Generalized empyema of left lung	1								1	1				1
Miliary	2								2	2				2
Of lungs	59				2		1		62	32	27	3		62
Legally executed					8				8	5	3			8
Total	78		1		17		2		98	53	36	7	2	98

Died in Bilibid Hospital, 89; Legally executed, 8; Died in San Lazaro Hospital, 1. Total, 98.

Iwahig penal colony sick report.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Abscess:					
Alveolar		3		2	1
Anal		2		1	1
Axillary		2		2	
Face		2		2	
Foot		10		9	1
Gluteal region		3		3	
Hand		2		2	
Head		3		3	
Ischio-rectal		1		1	
Mammary		1		1	
Popliteal region		1		1	
Scrotal		1		1	
Adenitis, axillary	1	1		2	
Amebiasis		2		1	1
Ankylostomiasis		4		4	
Anthrax	2	4		6	
Apoplexy, cerebral		1	1		
Arthritis, rheumatic		3		3	
Atrophic cirrhosis of liver		1		1	
Atrophy, muscular, chronic	1			1	
Bite, insect		1		1	
Bronchitis:					
Acute		14		14	
Chronic	1	1		2	
Broncho-pneumonia and endocarditis		1		1	
Cardiac dilatation		1	1		
Cephalalgia		1		1	
Conjunctivitis:					
Acute, catarrhal		1		1	
Simple		5		5	
Constipation		5		5	
Contusions		17		17	
Contusion:					
Of gluteal region		1		1	
Foot		5		5	
Head		1		1	
Pulmonary		2		2	
Spine		2		2	
Degeneration of heart		1	1		
Dermatitis		2		2	
Herpetiform		1		1	
Diarrhea		5		5	
Dislocation, maxillary		1		1	
Dysentery		2		2	
Amebic	1	4		5	
Eczema		2		2	
Enteritis		6		6	
Enucleation of eye		1		1	
Epilepsy, syphilitic		2	1	1	
Erysipelas	1			1	
Fatty degeneration of heart after hemoglobinuria		1	1		
Fistula, anal		3		3	
Fracture:					
Of skull		1		1	
Complete, forearm		1		1	
Furuncle	1	1		2	
Gastralgia		1		1	
Gastritis		1		1	
Acute	1	7		8	
Gastro-enteritis		1		1	
Hemoglobinuria		3		3	
Hemoglobinuria and pneumonia		1	1		
Hemorrhoids		1		1	
Hepatic congestion		7		7	
Hepatitis		7		7	
Herpes	1	2		3	
Hypertrophic cirrhosis of liver	1	1		2	
Intestinal parasites, ascariasis		1		1	
Iritis		1		1	
Keratitis, interstitial		1		1	
Laryngitis, acute	1			1	
Lithiasis, biliary		1		1	
Malaria	10	1,000		1,004	6
Malaria and pneumonia		2	1	1	
Malaria and neuritis		1		1	
Malaria, estivo-autumnal		8		8	
Malarial cachexia		17		17	
Myalgia		3		1	2
Myocarditis		4	1	3	
Nephritis:					
And endocarditis		1		1	
Acute		7		7	
Chronic		3		3	
Neuralgia		3		3	
Occlusion, intestinal		3		3	
Orchitis	1			1	
Paragonimiasis	1			1	
Parotitis		1		1	
Peritonitis:					
Acute		2	2		
Acute, general		1	1		
Pleurisy		3		3	
Pleurodynia		1		1	
Pulmonary edema		1	1		
Pulmonary hemorrhage		1	1		
Purpura		1		1	
Rheumatism	1	30		31	
Senile debility		1	1		
Senile dementia		1		1	
Sprain without dislocation		1		1	
Stomatitis		1		1	
Submersion accidental		1	1		
Syncope		1		1	
Syphilis	1			1	
Tonsillitis		1		1	
Tuberculosis, abdominal		1	1		
Tuberculosis, pulmonary	15	58	12	41	15
Tumor of ear		1		1	
Tumor of testicle		1		1	
Ulcer of foot	3	6		9	
Ulcer of hand		1		1	
Ulcer of skin		1		1	
Under observation		179		177	2
Wounds:					
Foot	3	70		72	1
Hand	1	21		21	1
Head		2		2	
Head, and contusion of chest		1		1	
Leg		1		1	
Contused, with fracture of third phalanx of finger		2		2	
Contused—					
Face		2		2	
Foot		3		1	2
Forearm	2			2	
Hand		3		3	
Head		1		1	
Infected—					
Arm		1		1	
Face		1		1	
Foot		4		4	
Hand		2		2	
Total	50	1,632	28	1,621	33

Report of San Lazaro Hospitals, insane and leper departments.

INSANE DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital at last report	2	1	1	-----	138	24	3	-----	3	-----	172
Admitted	49	1	5	-----	86	35	2	-----	2	-----	180
Discharged	42	1	3	-----	24	15	-----	-----	4	-----	89
Transferred	1	-----	1	-----	-----	1	-----	-----	-----	-----	3
Escaped	-----	-----	-----	-----	4	-----	-----	-----	-----	-----	4
Died	1	-----	-----	-----	10	6	2	-----	-----	-----	19
Remaining	7	1	2	-----	186	87	3	-----	1	-----	237

LEPER DEPARTMENT.

In hospital at last report	1	-----	-----	-----	116	49	-----	-----	-----	-----	166
Admitted	1	-----	2	-----	257	120	14	-----	-----	-----	394
Discharged	-----	-----	1	-----	9	4	13	-----	-----	-----	27
Discharged, not leprosy	-----	-----	-----	-----	37	28	1	-----	-----	-----	66
Transferred	1	-----	-----	-----	194	69	-----	-----	-----	-----	264
Escaped	-----	-----	-----	-----	14	1	-----	-----	-----	-----	15
Died	1	-----	-----	-----	17	6	-----	-----	-----	-----	24
Remaining	-----	-----	1	-----	102	61	-----	-----	-----	-----	164

CULION LEPER COLONY DIVISION.

Remaining at last report	-----	-----	3	-----	1,017	660	1	-----	-----	-----	1,681
Admitted	1	-----	1	-----	732	334	1	-----	-----	-----	1,069
Born	-----	-----	-----	-----	18	19	-----	-----	-----	-----	37
Escaped, returned	-----	-----	-----	-----	7	-----	-----	-----	-----	-----	7
Died	-----	-----	-----	-----	297	130	-----	-----	-----	-----	427
Escaped	-----	-----	-----	-----	45	1	-----	-----	-----	-----	46
Discharged	-----	-----	1	-----	2	1	-----	-----	-----	-----	4
Remaining	1	-----	3	-----	1,430	881	2	-----	-----	-----	2,317

Chinese Hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number, males.	Total.
In hospital at last report	19	19
Received	235	235
Discharged	136	136
Transferred	1	1
Died	85	85
Remaining in hospital	32	32

Report of prescriptions filled at the Central Free Dispensary.

Health districts.	Americans.				Foreigners, adults, male.	Filipinos.				Chinese, adults, male.	Total.
	Adults.		Children.			Adults.		Children.			
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.		
No. 1, Intramuros	2,002	1,219	-----	4	43	6,611	5,016	1,466	1,279	6	17,646
No. 2, Meisic	91	-----	1	-----	14	1,559	1,392	593	328	3	3,981
No. 4, Sampaloc	21	1	-----	-----	1	2,086	1,300	1,658	971	-----	6,033
No. 5, Tondo	30	-----	-----	-----	1	1,081	991	321	242	1	2,617
No. 6, Paco	5	-----	-----	-----	-----	421	383	381	301	-----	1,491
Province (Rizal)	-----	-----	-----	-----	-----	12	-----	-----	-----	-----	12
Total	2,149	1,220	1	4	59	11,720	9,082	4,414	3,121	10	31,780

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans.		Foreigners.			Filipinos.			
			Adults.			Adults.		Children.	
	Adults, male.	Children, male.	Male.	Female.	Children, male.	Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	12	1	32	1	-------	1,433	1,424	560	568
No. 2, Meisic, Drs. F. Herrera and C. Reyes	18	-------	8	-------	1	443	221	208	162
No. 4, Sampaloc, Dr. F. Castañeda	-------	-------	1	-------	-------	586	949	795	816
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	2	1	-------	-------	-------	1,360	1,015	948	633
No. 6, Paco:									
Dr. J. B. Cabarrús	-------	-------	-------	-------	-------	298	327	195	160
Dr. Tee Han Kee	3	-------	-------	-------	-------	35	31	13	11
Total	35	2	41	1	1	4,155	3,967	2,739	2,350

Health districts and physicians.	Chinese.			Total.	Cured.		Deaths.		Number of visits.
	Adults, male.	Children.			Male.	Female.	Male.	Female.	
		Male.	Female.						
No. 1, Intramuros, Dr. V. Cavanna	-------	-------	-------	4,051	920	868	29	23	10,176
No. 2, Meisic, Drs. F. Herrera and C. Reyes	51	-------	-------	1,112	555	302	13	10	4,877
No. 4, Sampaloc, Dr. F. Castañeda	2	-------	-------	3,149	207	260	79	85	3,917
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	12	-------	-------	3,971	655	409	42	21	7,228
No. 6, Paco:									
Dr. J. B. Cabarrús	-------	-------	-------	980	279	249	39	16	2,666
Dr. Tee Han Kee	338	17	1	449	289	33	3	-------	1,857
Total	403	17	1	13,712	2,905	2,121	205	155	30,721

San Lazaro Morgue report.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	1	Received—continued:	
Received:		Typhoid fever	5
Amputated leg	2	Violence	10
Beriberi	2	Other diseases	349
Cholera	152		
Collection of bones	1	Total	655
Death from burning	1		
Diphtheria	15	Dropped:	
Drowning	1	Buried by Bureau of Prisons	1
Gangrene (one leg)	1	Buried by city	445
Hydrophobia, suspected	1	Buried by family	174
Leprosy	22	Cremated	27
Leprosy, suspected	1	Transferred to Philippine Medical School	8
Pulmonary tuberculosis	43	Remaining after the year	0
Rabies	1		
Stillborn	80	Total	655
Tetanus	16		
Traumatic shock	1		

Number of autopsies held, 222.

Disposition of dead bodies.

Dispositon.	Number.	Disposition.	Number.
Buried:		**Burried—continued:**	
Norte cemetery	5,348	Santa Ana cemetery	171
Paco cemetery	290	Chinese cemetery	250
Santa Cruz cemetery	83	San Pedro Macati cemetery (English)	4
Binondo cemetery	294	**Otherwise disposed of:**	
Balicbalic cemetery	1,149	Cremated	21
Maytubig cemetery—		Transferred to the provinces	69
San Marcelino	45	Remaining in the Philippine Medical School	10
Ermita	202	Remaining in City Morgue	15
San Fernando de Dilao	90	Remaining in private morgues	2
Singalong cemetery	50	Embalmed for shipment	15
Malate cemetery	372	Preserved in alcohol (fœtuses)	6
Pandacan cemetery, Roman Catholic	62		
Pandacan cemetery, Filipino Church	141	Total	[a]8,689

[a] In this total are included 365 stillbirths and 20 dead bodies brought from the provinces; also 21 bodies left from the Philippine Medical School and 4 of Santo Tomas University last year.

Disinterments.

Cemeteries.	Number.	Cemeteries.	Number.
Balicbalic	26	Pandacan	1
Binondo	8	Santa Ana	1
Chinese	87	Santa Cruz	208
Loma	3	Tondo	3
Malate	7		
Norte	4	Total	466
Paco	118		

General inspection of houses, premises, vaults, etc., with improvements ordered, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors.

1. Inspections of houses by sanitary inspectors	47,317
2. Reinspections of houses for verification of work ordered	2,671
3. Inspections of houses by assistant sanitary inspectors and sanitary policemen	1,012,534
4. Reinspections of houses by assistant sanitary inspectors and sanitary policemep	341,272
5. Houses ordered cleaned (written)	42
6. Houses ordered cleaned (verbal)	209,559
7. Houses cleaned	209,559
8. Houses ordered whitewashed and painted	952
9. Houses whitewashed and painted	755
11. Number of houses recommended condemned and removed	5,174
12. Number of houses condemned and removed	12
13. Number of localities where "squatters" are located	0
14. Number of samples of water, foods, etc., sent to Laboratory	7,118
15. Number of reports for same	4,383
16. Number of fire-plugs opened or closed for sanitary purposes	0
17. Number of hydrants recommended reopened	0
18. Number of houses where garbage has not been removed for two days	23
19. Number of persons reported sick to Municipal Physicians	17,540
20. Cesspools and vaults ordered cleaned	36
21. Cesspools cleaned	21
22. Yards ordered cleaned	158,171
23. Yards cleaned	158,171
24. Yards ordered repaired (repaved, etc.)	49
25. Yards repaired	1

26. Number of cholera cases reported by Sanitary Inspectors	116
27. Number of cholera cases found alive	139
28. Number of cholera cases found dead	90
29. Number of orders issued during the year	430
30. Number of orders complied with during the year	307
31. Number of orders awaiting action	52
32. Number of orders pending in court	2
33. Average number of food tiendas in the districts	3,044
34. Number of persons convicted for violation of food prohibition orders	169
35. Average number of regular inspectors on duty	49
36. Average number of regular emergency inspectors on duty	25
37. Number of leprosy cases sent to San Lazaro Hospital	161
38. Number of plague cases reported	0
39. Number of smallpox cases reported (varioloid included)	209
40. Average number of houses in which traps were set	928
41. Average number of houses in which bane was placed	0
42. Average number of traps set	1,831
43. Average number of plates with bane placed	0
44. Rats caught by rat catchers	3,000
45. Rats caught by traps	4,333
46. Rats caught by poison	37
47. Rats found dead	48
48. Average number of rat catchers employed	14
49. Number of persons vaccinated during the year	35,221

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Anthrax	1		Hemorrhagic pancreatitis	1	1
Beriberi	3		Infection, colibacillary	1	
Bronchitis	1	7	Insanitary condition	2,816	181
Bronchitis, subacute	1	4	Leprosy	120	472
Cancer	1		Leprosy and tuberculosis	1	
Carcinoma of tongue, etc	1		Leprosy, suspected	13	51
Cholera	156	8,086	Marasmus, puerperal septicemia	1	
Cholera:			Measles	39	162
Suspected	92	1,384	Meningitis	5	13
Vibrio carrier	4	29	Tuberculous	3	13
Cockroaches	2		Mosquitos, larvæ	40	
Convulsions	4		Nephritis, chronic	1	
Diarrhea and enteritis	2		Organic heart disease	1	
Diphtheria	29	253	Perforated ulcer, duodenum	1	
Suspected	7	38	Pleuro-pneumonia of cattle	2	
Dysentery	21	54	Pneumonia	3	
Amebic	1		Rabies	3	
Bacillary	5	18	Rinderpest	1	
Chronic	1		Septicemia	1	
Enteritis	8	44	Surgical infection	1	
Acute, dysentery form	1		Syphilis	1	1
Chronic		30	Tetanus	11	10
Subacute	2	19	Ticks	1	
Entero-colitis, chronic	1		Tuberculosis	305	71
Erysipelas	5	2	Typhoid fever	38	296
Exhumations	466	8	Undetermined	5	26
Fever, colibacillary	2		Unknown	1	9
Flies	10		Varicella	86	518
Foot-and-mouth disease	1		Variola	1	8
Gastritis	1		Varioloid	108	628
Gastro-enteritis	14	49	Suspected	3	20
Gastro-enteritis and bronchitis	1		Vermin	3	
Gastro-enteritis, chronic	3	18	Whooping cough	5	6
Glanders	7		Yaws	1	1
Gonorrhea	1				
Grave, disinterred body	1		Total	5,490	7,474
Grippe	2	4			

Report of disinfectants received and expended during fiscal year ending June 30, 1911.

RECEIVED.

	Corrosive sublimate (kilos).	Copper sulphate, (kilos).	Permanganate of potassium (kilos).	Sulphur, (kilos).	Lime chloride (kilos)	Lime, rock (sacks).	Acid, carbolic, crystal (drums).	Jeye's fluid (liters).	Kreso (liters).	Formalin (liters).	Alcohol (liters).	B. H. Form No. 51 (sheets).
Balance on hand from fiscal year 1909-1910 at Station A, Meisic	1	5	10	200	-----	3	1.0	-----	----	5	1	88
Received during fiscal year 1910-1911 from:												
Station A, Meisic	10	5	10	-----	-----	74	80.0	1,456	20	182	32	800
Station J	20	----	40	50	200	28	22.0	528	13	11	62	----
Station C	-----	5	2	-----	-----	3	----	25	----	25	1	----
Station I	-----	----	3	-----	-----	-----	6.0	-----	----	5	----	----
Total	31	15	65	250	200	108	59.0	2,009	33	228	96	888

EXPENDED.

Expended during fiscal year 1910-1911	19.380	5	36	80	100	97	54.5	1,'84	5	200	94	399
Balance on hand July 1, 1911 at:												
Station A	1.620	10	19	200	-----	1	2.0	75	20	25	1	----
Station J	10.000	----	10	20	100	10	2.5	-----	8	3	1	489
Total balance on hand July 1, 1911	11.620	10	29	220	100	11	4.5	75	28	28	2	489

Report of cremations at Palomar crematory.

Animals cremated.	Number.	Animals cremated.	Number.
American horses	4	Fowls	2,441
Australian horses	4	Goats	63
Bears	1	Leopards	1
Bulls	54	Native ponies	28
Calves	4	Pigs	614
Carabaos	20	Rats	800
Cats	570	Sharks	1
Cows	22	Sheep	4
Deer	2		
Dogs	323	Total	4,956

Refuse cremated.	Cartloads.	Refuse cremated.	Cartloads.
Condemned goods	906	Slops	1,209
Fire refuse	86	Trade refuse	3,354
Lumber	2	Miscellaneous	5
Market refuse	1,513		
Rubbish	1,109	Total	8,183

Report of operations of the pail-conservancy system.

PAIL COLLECTIONS.

Where cleaned.	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.
Private houses	5,543	1,708	2,141	798,947
Public buildings	150	58	314	108,106
Midden sheds	195	170	2,064	708,288
Military buildings	31	5	26	12,658
Total	5,919	1,941	4,545	1,617,999

CLEANED BY ODORLESS EXCAVATORS.

Where cleaned.	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	2,311	3,509	1,703,500
Public buildings	30	121	60,500
Insular Bureaus	5	40	20,000
Military buildings	2	6	3,000
Total	2,348	3,667	1,793,000

Report of action taken on applications for licenses.

Kind of license applied for.	Approved.	Disapproved.	Total acted upon.
Liquor:			
First-class bars	63	2	65
Second-class bars	56	4	60
First-class bars and restaurants	33		33
Second-class bars and restaurants	6		6
Groceries	81	2	83
Druggists	16		16
Theaters	9		9
Wholesale	50		50
Hotels	21	1	22
Restaurants	856	142	998
Lodging houses	35	1	36
Boarding houses	82	1	83
Clubs	44		44
Billiard and pool tables	84	1	85
Bowling alley	1		1
Dance halls	12	2	14
Barber shops	478	19	497
Native wines	2,462	91	2,553
Cooked foods, fruits, vegetables, soft drinks, and bakery products	2,824	193	3,017
Bakeries	16		16
Livery stables	138	13	151
Manufactories	271	28	299
Laundries	34	3	37
Distilleries	10		10
Ice cream	42	4	46
Tattooers	23		23
Ferryboats	14		14
Dyeing	16	1	17
Junk shops	46	1	47
Slot machines	4		4
Shooting galleries	6		6
Employment agencies	8		8
Fresh milk	1		1
Boil and sell tallow	1		1
Stock yards	2		2
Dairies	7		7
Auctioneers	5		5
Boarding stables	4	2	6
Grocery stores	16		16
Native pastries and gelatines	12		12
Second-hand furniture	9		9
Fruits and vegetables	1	1	2
Dry and sell fish	34	1	35
Tannery and sell leathers	12		12
Cinematographs	11	1	12
Skating rinks	3		3
Race tracks	1		1
Undertakers	6	1	7
Embalmers	1		1
Mercantile and collecting agencies	2	1	3
Breweries	1		1
Pawnbrokers	3		3
Fresh and smoked meats	1		1
Shipping offices	1		1
Master plumbers	3		3
Aërated water	2		2
Bill posting and street advertising	2		2
Theaters	7		7
Ice water	5		5
Boil and sell fresh untainted fat and lard	1		1
Cake and candies		1	1
Gelatine and pastries	1		1
Two additional automobiles	1		1
Total	7,997	517	8,514

Report of lepers living in the Philippine Islands.

	Race.	Number.		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Culion leper colony	(a)	1,436	861	258	187	567	815	549	327	72	102	2,317
San Lazaro Hospital	(b)	103	61	5	6	38	15	53	33	7	7	164
Moro Province	Filipinos.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	25
Total	----------	1,539	942	263	143	595	330	602	360	79	109	2,506

[a] Americans, 1; Europeans, 3; Filipinos, 2,311; Chinese, 2. Total, 2,317.
[b] Americans, 0; Europeans, 1; Filipinos, 163; Chinese, 0. Total, 164.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Provinces.	Race.	Number.		Children.		Single.		Married.		Widowers.	Widows.	Total
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	28	18	-----	-----	22	8	6	3	-----	7	46
Agusan	do	3	2	-----	-----	2	1	1	1	-----	-----	5
Albay	do	43	50	-----	-----	31	33	9	10	3	7	93
Ambos Camarines	do	73	63	5	2	44	34	16	13	8	14	135
Antique	do	51	34	1	-----	33	16	16	13	1	5	85
Bataan	do	19	16	-----	-----	11	6	5	3	3	7	35
Batanes	do	11	12	-----	-----	10	11	1	-----	-----	1	23
Batangas	do	60	58	1	-----	41	35	13	7	5	11	113
Bohol	do	202	171	8	-----	161	143	27	10	6	8	373
Bulacan	do	37	36	-----	1	24	19	8	10	5	6	73
Cagayan	do	13	12	-----	-----	10	7	1	5	2	-----	25
Capiz	do	50	57	3	1	33	23	12	14	2	19	107
Cavite	do	35	33	-----	-----	23	14	3	10	9	9	66
Cebu	do	179	120	1	-----	148	98	25	15	5	7	299
Hospicio de San José	(a)	49	47	-----	-----	-----	-----	-----	-----	-----	-----	96
Ilocos Norte	Filipino	81	26	-----	-----	61	16	17	6	3	4	107
Ilocos Sur	do	126	85	3	8	96	40	19	22	8	15	211
Iloilo	do	57	59	2	3	38	30	12	9	5	17	116
Isabela	do	-----	2	-----	-----	-----	1	-----	-----	-----	1	2
Laguna	do	28	34	-----	-----	21	15	3	7	4	12	62
Lepanto-Bontóc	do	20	21	4	1	14	10	2	7	-----	3	41
Leyte	do	48	38	1	-----	33	24	8	8	1	6	86
Masbate	do	5	4	-----	-----	4	3	1	1	-----	-----	9
Mindoro	do	9	7	-----	-----	8	4	1	2	-----	1	16
Misamis	do	60	36	-----	1	42	24	13	8	5	3	96
Nueva Ecija	do	36	27	1	2	30	15	3	7	2	3	63
Nueva Vizcaya	do	9	7	-----	1	5	3	3	2	1	1	16
Occidental Negros	do	71	35	2	-----	47	21	12	9	10	5	106
Oriental Negros	do	71	43	-----	-----	56	35	11	5	4	3	114
Pampanga	do	38	41	-----	-----	27	16	10	14	1	11	79
Pangasinan	do	124	84	1	2	64	33	47	32	12	17	208
Rizal	do	48	25	10	-----	16	14	15	5	7	5	73
Romblon	do	11	4	-----	-----	4	2	4	2	3	-----	15
Samar	(b)	19	8	-----	1	14	3	4	3	1	1	27
San Lazaro Hospital	Filipino	199	38	-----	-----	93	12	86	16	20	10	267
Sorsogon	do	76	72	2	4	55	42	17	14	2	12	148
Surigao	do	11	2	-----	-----	6	-----	3	2	2	-----	13
Tarlac	do	15	8	1	-----	7	5	6	3	1	-----	28
Tayabas	do	114	93	4	3	84	59	20	21	6	10	207
Union	do	39	31	1	4	20	17	14	7	4	3	70
Zambales	do	11	15	-----	-----	10	7	1	3	-----	5	26
Total	----------	2,179	1,569	51	34	1,453	909	475	330	151	249	3,748

[a] Europeans, 9; Filipinos, 87. Total, 96.
[b] Americans, 8; Europeans, 2; Filipinos, 223; Chinese, 3; others, 1. Total, 237.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Provinces.	Race.	Number.		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	25	31	2		10	6	10	9	3	16	56
Agusan	do	10	5		1	7	3	3	1			15
Albay	do	86	63	12	6	42	41	28	8	4	8	149
Ambos Camarines	do	86	70	7	9	28	30	35	8	16	22	156
Antique	do	45	38	2	3	23	15	16	8	4	12	88
Bataan	do	19	17	1		12	9	5	4	1	4	26
Batanes	do	13	31	1	1	3	3	7	4	2	18	44
Batangas	do	73	45	4		29	22	34	13	6	10	113
Bohol	do	155	121	18	1	79	85	45	17	13	18	276
Bulacan	do	65	65	4	7	29	28	28	11	4	19	130
Cagayan	do	27	27	2		11	5	8	6	6	16	54
Capiz	do	105	85	2	3	36	30	52	18	15	24	190
Cavite	do	78	53	9	7	31	19	23	13	15	14	131
Cebu	do	73	47	8	4	37	18	17	12	11	13	120
Ilocos Norte	do	37	41	2		5	10	23	7	7	24	78
Ilocos Sur	do	105	90	11	5	42	29	34	28	18	30	195
Iloilo	do	88	95	7	4	39	40	22	17	20	34	183
Isabela	do	4	4		1	1		1		2	3	8
Laguna	do	57	37	9	3	30	18	12	9	6	12	94
Leyte	do	79	33	7	1	44	17	18	6	10	9	112
Masbate	do	13	8	1	1	8	5	2		2	2	21
Misamis	do	64	42	6	4	39	17	10	11	9	10	106
Mountain	do	49	32									81
Nueva Ecija	do	47	34	7	2	11	11	22	5	7	16	81
Nueva Vizcaya	do	9	3			5	2	2	1	2		12
Occidental Negros	do	99	66	9	4	52	34	12	8	26	20	165
Oriental Negros	do	44	28	2		24	17	14	6	4	5	72
Pampanga	do	125	120	11	10	64	54	31	16	19	40	245
Pangasinan	do	106	93	9	6	43	34	35	25	19	28	199
Rizal	do	91	62	5	4	33	28	37	12	16	18	153
Romblon	do	13	5	1		4	3	7		1	2	18
Sorsogon	do	189	107	28	18	123	70	30	10	8	9	296
Surigao	do	24	5	2		10	1	10	2	2	2	29
Tarlac	do	29	27	5	1	10	10	6	6	8	10	56
Tayabas	do	70	47	9	2	32	19	22	10	7	16	117
Union	do	38	36	6	3	17	11	8	9	7	13	74
Zambales	do	20	19	1	1	9	4	6	3	4	11	39
Total		2,260	1,782	210	112	1,022	748	675	321	304	519	3,992

Summary of operations of Baguio Hospital, referred to on page of annual report.

Cases remaining from fiscal year, 1910		19
Cases admitted during fiscal year 1911		542
Total number of hospital cases during the year		561
Total number of hospital cases remaining June 30, 1911		36
Total number of persons accompanying patients in hospital		25
Total new cases outdoor department (persons attending hospital clinic)		3,429
Total number visits to hospital clinic		5,033
Total number of prescriptions filled		5,909
Total number surgical dressings (hospital clinic)		2,061
Total number major operations		17
Total number minor operations		270
Number of prostitutes examined		140
Number of laboratory examinations		902
Number of vaccinations:		
At hospital	147	
In subprovince of Benguet	9,375	
Total vaccinations		9,522
Number of examinations for enlistment (Constabulary), discharge, etc.		10

Hospital cases treated in Baguio Hospital, fiscal year 1911.

MEDICAL CASES.

Diagnosis.	Americans.	Filipinos.	Chinese.	Europeans.	Japanese.	Total.
Alcoholism:						
Acute	4	---	1	---	1	6
Delirium tremens	2	---	---	---	---	2
Anemia	---	1	---	---	---	1
Angina pictoris	1	---	---	---	---	1
Bronchitis, acute	1	---	14	---	---	15
Broncho-pneumonia acute	---	---	1	---	---	1
Cholecystitis, chronic	1	---	---	---	---	1
Conjunctivitis:						
Acute	---	---	2	---	---	2
And keratitis, acute	---	---	1	---	---	1
Constipation, acute	2	---	4	---	---	6
Coryza	2	---	5	---	---	7
Cystitis, acute (Keloid, hand)	---	---	1	---	---	1
Debility, post-operative	1	---	---	---	---	1
Dengue fever	---	---	1	---	---	1
Dhoble itch	---	---	1	---	---	1
Dysentery, amebic, acute	4	---	4	---	5	13
Enteritis:						
Acute—						
Catarrhal	7	---	16	---	2	25
Ankylostomiasis	2	---	---	---	---	2
Ascariasis	---	---	1	---	---	1
Chronic, catarrhal	---	---	2	---	---	2
Entero-colitis, acute	---	---	2	---	---	2
Epilepsy	---	---	1	---	---	1
Epistaxis	---	---	1	---	---	1
Gastritis:						
Acute	4	---	7	---	---	11
Ascariasis	---	---	5	---	---	5
Alcoholic	1	---	---	---	---	1
Chronic	1	1	---	---	---	2
Gastro-enteritis:						
Acute	2	---	1	---	---	3
Bronchitis, acute	---	---	1	---	---	1
Malnutrition and ascariasis	---	---	1	---	---	1
Hemorrhagic disease of the newborn	---	---	1	---	---	1
Hysteria	---	---	1	---	---	1
Influenza	2	---	---	---	---	2
Indigestion, Intestinal, acute	---	---	---	1	---	1
Insanity	---	---	1	---	---	1
Laryngitis acute	1	---	---	---	---	1
Malaria:						
Estivo-autumnal	8	---	19	---	1	28
Pneumonia	---	---	1	---	---	1
Tertian	8	1	26	1	4	40
Pneumonia	---	---	1	---	---	1
Malnutrition, rachitis and intestinal parasites	---	---	1	---	---	1
Malnutrition, acute bronchitis and ascariasis	---	---	1	---	---	1
Measles	---	---	2	---	---	2
Mental derangement	---	---	1	---	---	1
Mitral and aortic insufficiency	---	---	1	---	---	1
Mumps	---	1	23	---	---	24
Nephritis, acute, parenchymatous	---	---	1	---	1	2
Neurasthenia	2	---	---	---	---	2
Neuritis, acute, catarrhal	---	---	1	---	---	1
Nostalgia and biliousness	1	---	---	---	---	1
Ophthalmia neonatorum	---	---	1	---	---	1
Otitis media, acute, suppurative, (mastoiditis)	---	---	1	---	---	1
Parasites, intestinal:						
Ascariasis	---	---	1	---	---	1
Ankylostomiasis	---	---	1	---	---	1
Pemphigus contagiosa	1	---	1	---	---	2
Pharyngitis, chronic	1	---	---	---	---	1
Phlebitis, femoral, acute	---	---	1	---	---	1
Pleurisy, acute	---	---	1	---	---	1
Pneumonia:						
Bronchial, acute	1	---	---	---	---	1
Lobar, acute	---	---	14	---	---	14
Poisoning (bichloride of mercury)	---	---	1	---	---	1
Ptomaine poisoning	---	---	2	---	---	2
Renal calculus	1	---	---	---	---	1
Rheumatism:						
Articular, acute	2	---	4	---	---	6
Gonorrheal	1	---	---	---	---	1
And acute endometritis	---	---	1	---	---	1
Muscular, acute	---	---	4	---	---	4
Splenomegaly (malarial)	1	---	---	---	---	1
Sprue	2	1	---	---	---	3
Syphilis:						
Secondary	1	---	2	---	---	3
Tertiary	2	---	---	---	---	2
Tonsillitis, follicular, acute	---	---	1	---	---	1
Tuberculosis:						
Pulmonary—						
Acute	3	---	12	---	---	15
Chronic	---	---	1	---	---	1
And laryngeal	1	---	1	---	---	2
Miliary, acute	---	---	1	---	---	1
Typhoid fever	---	1	---	---	---	1
And pneumonia	---	---	1	---	---	1
Ulcer, gastric	1	---	1	---	---	2
Under observation	2	---	13	---	---	15
Varioloid	---	---	44	---	---	44
Yaws	---	---	20	---	---	20
Total	72	6	284	2	14	378
Persons accompanying patients	3	---	21	---	1	25

Hospital cases treated in Baguio Hospital, fiscal year 1911—Continued.

SURGICAL CASES.

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Chinese.	Japanese.	Total.
Abrasions:							
Face				2			2
Leg				1			1
And contusions—							
Feet				1			1
Multiple		1					1
Abscess:							
Heel				2			2
Inguinal				1			1
Knee				1			1
Parotid					1		1
Pectoral muscle				1			1
Retro-perineal				1			1
Submaxillary						1	1
Thigh				1			1
Adenitis:							
Cervical—							
Acute				1			1
Tuberculous				1			1
Epitrochlear and axillary				1			1
Inguinal, acute				1			1
Gonorrheal, suppurative				1		1	2
Suppurative				2			2
Suppurative, sub-maxillary, femoral, acute				1			1
Amputation, forearm				1			1
Appendicitis, acute, catarrhal (appendectomy)	1						1
Arm, crushed, amputation				1			1
Brain, concussion of				2			2
Burns:							
Face and eyes				1			1
Foot				1			1
Leg, by corrosive substance				1			1
Carbuncle				1			1
Carcinoma of breast, recurrent	1						1
Circumcision	3						3
Contusion:							
Chest					1		1
Jaw				1			1
Knee				1			1
Knee and ankle	1						1
Multiple		1		1			2
Contusion and abrasion, knee and elbow	1						1
Contusions and wounds:							
Multiple				1			1
Multiple (sprained ankle)				1			1
Crushed finger (amputation)				1			1
Crushed foot				2			2
Cyst, sebaceous, thigh	2						2
Cystitis suppurative, retention of urine, malaria, gonorrheal stricture, (cystetomy and urethrotomy, perineal)			1				1
Dislocation, elbow; multiple contusions and abrasions			1				1
Dynamite injury, eye				2			2
Ectropion			1				1
Epididymitis, acute, gonorrheal				1		2	3
Fistula, fecal (laparotomy)		1					1
Fistula in ano				1			1

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Chinese.	Japanese.	Total.
Fracture:							
Compound, tibia; fracture, fibula				1			1
Colles'				1			1
Femur				1			1
Humerus, compound				1			1
Humerus, at elbow (old case)				1			1
Metatarsal, compound				2			2
Pott's, compound	1						1
Radius				1			1
Skull				1			1
Tibia					1		1
Tibia (old)				1			1
Toes, compound				1			1
Furuncle	2						2
Goiter:							
Colloid (thyroidectomy, partial)				1			1
Cystic (thyroidectomy)				1			1
Hemorrhoids:							
External, excision of	1						1
Internal				2			2
Hernia:							
Inguinal			1				1
Oblique, herniotomy	1						1
Infection:							
Finger				3			3
Foot				6			6
Hand			1				1
Thumb (lymphangitis, hand and arm)	1						1
Osteomyelitis:							
Acute, suppurative				1			1
Chronic, suppurative, jaw (resection)				1			1
Periostitis, acute			1				1
Plastic operation, fingers				1			1
Scabies, secondary infection				3			3
Sprain:							
Ankle	5						5
Ankle and wrist	1						1
Ankle (lacerated wound, leg)				1			1
Knee	1						1
Thumb				1			1
Wrist (infected wound, leg)				1			1
Synovitis, knee				1			1
Verrucca, multiple				1			1
Wounds:							
Contused, neck				1			1
Firearm, kneejoint				1			1
Incised—							
Abdomen, arm, and leg				1			1
Forehead and face	1						1
Hands (contusions, multiple)				1			1
Leg				2			2
Head, neck, and arms				2			2
Neck and back				1			1
Infected—							
Arm				1			1
Finger (amputation)				1			1
Foot				3		1	4
Forehead				1			1
Legs				2		1	3
Thumb				1			1

Hospital cases treated in Baguio Hospital, fiscal year 1911—Continued.

SURGICAL CASES—Continued.

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Chinese.	Japanese.	Total.
Wounds—Continued.							
Lacerated—							
Eyelid (contusion, eye)						1	1
Finger				1			1
Fingers (finger amputed)				1			1
Fingers and thumb				2			2
Hand				1			1
Punctured—							
Foot			1	1			2
Foot, infected				1			1
Stab, chest				1			1
Total	23	4	6	100	3	7	143

GYNECOLOGICAL AND OBSTETRICAL CASES.

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Chinese.	Japanese.	Total.
Abortion, accidental				1			1
Bartholinitis, suppurative				1			1
Dysmenorrhea				1			1
Endometritis, chronic laceration of cervix (curettage and trachelorraphy)	1						1
Hemorrhage, post-partum				1			1
Parturition	4	1		4			9
Pregnancy	1						1
Pruritus vulvæ				1			1
Puerperal septicæmia						1	1
Uterus, fibroma of				1			1
Hysterectomy				1			1
Vaginitis, chronic, gonorrheal						2	2
Total	6	1	0	11	0	3	21

OUTDOOR DEPARTMENT (HOSPITAL CLINIC).

Diagnosis.	Number of cases.	Diagnosis.	Number of cases.
Abortion:		Acne rosacea	2
Accidental	2	Acne vulgaris	13
Threatened	1	Adenitis:	
Abrasions:		Axillary	4
Ankle	2	Cervical	4
Arm	1	Cervical, tuberculous	2
Ear	1	Inguinal, simple	1
Face	5	Inguinal, suppurative, acute, gonorrheal	5
Foot	7	Submaxillary	1
Finger	7	Adenoids, hypertrophy of	1
Forehead	4	Alcoholism, acute	3
Hand	11	Alopecia	12
Knee	3	Amenorrhea	1
Leg	24	Anemia	21
Thigh	1	Appendicitis, chronic	3
Toe	2	Arterio-sclerosis	2
Abscesses:		Arthritis, chronic	1
Abdominal wall	2	Asthenia	7
Alveolar	6	Asthma	6
Back	2	Beriberi	6
Cheek	1	Blepharitis, chronic	3
Ischio-rectal	2	Bronchitis, acute	384
Leg	1	Bronchitis, chronic	14
Lip	1	Burns:	
Mammary gland	1	Arm	3
Meibomian gland	1	Arm and face	1
Neck	2	Face	2
Parotid	2	Face (carbolic acid)	1
Rectal	1	Face and chest	1
Thigh	2		

Hospital cases treated in Baguio Hospital, fiscal year 1911—Continued.

OUTDOOR DEPARTMENT (HOSPITAL CLINIC)—Continued.

Diagnosis.	Number of cases.
Burns—Continued.	
Fingers	1
Foot	1
Hand	8
Head	1
Leg	2
Carbuncle	1
Cephalalgia	25
Cervix, erosion of	1
Chancroid	7
Circumcision	3
Conjunctivitis:	
Acute	102
Chronic	9
Follicular, acute	6
Constipation:	
Acute	212
Chronic	111
Contusions:	
Ankle	1
Arm	1
Back	1
Chest	6
Elbow	8
Eye	1
Finger	1
Foot	3
Hand	3
Hip	1
Knee	4
Leg	2
Sacrum	1
Shoulder	6
Thigh	1
Toe	1
Convulsions	2
Coryza	110
Cyst:	
Meibomian	2
Sebaceous	7
Infected	2
Cystitis, acute	22
Dengue fever	2
Dental caries	48
Dermatitis, undetermined	26
Dhobie itch	28
Diarrhea:	
Acute	163
Chronic	1
Dislocation:	
Metacarpo-phalangeal	1
Thumb	1
Wrist	1
Dysentery, amebic	18
Dysmenorrhea	7
Ears, plastic operation of	1
Eczema, acute	10
Eczema, chronic	13
Emphysema and chronic bronchitis	1
Endometritis, chronic	2
Entero-colitis, acute	1
Enuresis	2
Epididymitis, acute, gonorrheal	5
Epilepsy	1
Epistaxis	2
Eye strain	2
Extraction of needle (abdomen)	1
Fissure in ano	1
Fistula in ano	1
Fistula, fecal	1
Foreign body in eye (removed)	7
Foreign body in finger (removed)	1
Fractures:	
Acromion process	1
Finger	3
Nose	1
Radius	2
Fractures—Continued.	
Rib	2
Scapula	1
Furunculosis	43
Gastric hyperacidity	12
Gastritis:	
Acute	139
Chronic	41
Gastro-enteritis, acute	6
Gingivitis	7
Hematoma, ankle	1
Hematuria	1
Hemorrhoids:	
External	11
Internal	1
Hernia:	
Inguinal	2
Umbilical	2
Herpes liabialis	6
Herpes zoster	2
Hordeolum	5
Icterus, catarrhal	2
Ichthyosis	6
Impetigo contagiosa	6
Impacted cerumen	7
Indigestion, intestinal:	
Acute	8
Chronic	2
Infection:	
Arm	1
Face	1
Finger	8
Foot	11
Hand	6
Heel	1
Knee	1
Lip	4
Nose	6
Scrotum	2
Toe	2
Inoculation, gonococcus vaccine	2
Inoculation, rabic serum	2
Insomnia	26
Laryngitis, acute	28
Leucorrhea	3
Lumbago	41
Malaria	225
Menorrhagia	6
Migraine	2
Miliaria	1
Mitral insufficiency	1
Myalgia	50
Nephritis, chronic	1
Neuralgia:	
Intercostal	11
Trifacial	3
Neurasthenia	46
Neuritis:	
Brachial	2
Cardiac (nicotine)	2
Optic	2
Osteomyelitis:	
Acute, suppurative	1
Finger	1
Leg	1
Otitis media:	
Acute	1
Suppurative	9
Chronic	4
Parasites, intestinal:	
Ascaris	22
Oxyuris	1
Tenia saginata	1
Paronychia	1
Paraphymosis	1
Parotitis, acute	1
Parturition	1

Hospital cases treated in Baguio Hospital, fiscal year 1911—Continued.

OUTDOOR DEPARTMENT (HOSPITAL CLINIC)—Continued.

Diagnosis.	Number of cases.
Pediculosis pubis	6
Pemphigus contagiosa	6
Periostitis, acute	2
Pertussis	2
Pharyngitis:	
Acute	30
Chronic	8
Pleurisy, acute	3
Pregnancy	5
Vomiting of	1
Prolapsus recti	1
Prolapsus uteri	1
Pruritus vulvæ	3
Psoriasis	1
Pyorrhea alveolaris	3
Renal calculus	5
Rheumatism, articular:	
Acute	30
Chronic	5
Acute, gonorrheal	1
Muscular, acute	22
Rhinitis:	
Acute	6
Hypertrophic, chronic	20
Atrophic	3
Rubeola	1
Rupture, tendon of finger	1
Salpingitis, acute	3
Sarcoma, thigh	1
Scabies	105
Sciatica:	
Alcoholic	1
Rheumatic	1
Scurvy	2
Sinus, appendiceal	1
Sprains:	
Ankle	15
Elbow	4
Finger	7
Knee	3
Thumb	3
Wrist	7
Sprue	4
Stomatitis:	
Herpetic	2
Parasitic, acute	8
Strain:	
Muscular	5
Tendo Achilles	1
Synovitis, acute, knee	2
Syphilis:	
Primary	1
Secondary	9
Tertiary	2
Teeth extracted (cases)	142
Tendo-synovitis, knee	1
Thrush	3
Tinea circinata	19
Tinea sycosis	3
Tinea imbricata	3
Toenail, ingrowing	1
Tonsillitis:	
Acute	20
Follicular, acute	16
Trachoma	3
Tuberculosis:	
Kidney	2
Pulmonary	73
Testicle	1
Ulcer:	
Cervix	1
Cornea	7
Gastric	2
Varicose	1
Urethritis:	
Acute—	
Anterior, gonorrheal	8
Posterior, gonorrheal	13
Urethritis—Continued.	
Chronic	13
Urine, incontinence of	1
Urticaria	17
Uterus, retro-displacement of	1
Vaccinia	7
Vaginitis:	
Acute	1
Chronic, gonorrheal	3
Varicella	3
Varicocele	1
Varicose veins, leg	1
Verrucca, removal of	11
Wounds:	
Contused—	
Ankle	1
Hand	1
Knee	1
Shoulder	1
Incised—	
Ankle	2
Arm	4
Chest	1
Eyelid	1
Face	2
Finger	9
Foot	3
Forehead	3
Hand	5
Leg	4
Lip	1
Scalp	5
Scrotum	1
Thumb	3
Toe	2
Tongue	1
Wrist	1
Infected—	
Ankle	1
Arm	2
Buttocks	1
Chest	1
Ear	2
Elbow	1
Finger	20
Foot	21
Forehead	1
Hand	11
Knee	1
Leg	20
Lip	1
Neck	1
Toe	3
Lacerated—	
Ankle	2
Arm	2
Eyelid	1
Finger	13
Foot	3
Hand	3
Heel	1
Leg	5
Scalp	1
Thumb	2
Toe	2
Punctured—	
Ankle	1
Arm	1
Back	2
Foot	11
Hand	4
Leg	3
Thigh	1
Thumb	1
Total	3,429

Hospital cases treated in Baguio Hospital, fiscal year 1911—Continued.

TABLE OF DEATHS.—HOSPITAL CASES FISCAL YEAR 1911.

Date.	Nationality.	Adult or child.	Sex.	Cause of death.
1910.				
July 13	American	Adult	Male	Acute parenchymatous nephritis, complication of cholera Asiatica.
July 17	Filipino	Adult	Male	Cerebral hemorrhage.
Aug. 2	Igorot	Adult	Male	Pernicious malaria.
Aug. 8	do	Adult	Female	Incised wounds, abdomen, arms, legs.
Aug. 16	Filipino	Adult	Male	Abscess, cerebral.
Aug. 17	do	Adult	Male	Tuberculosis, pulmonary, acute.
Aug. 31	Japanese	Adult	Male	Amebic dysentery, acute.
Aug. 22	Filipino	Adult	Female	Poisoning, accidental (bichloride of mercury administered by herself).
Sept. 12	do	Adult	Male	Malignant malaria.
Oct. 31	do	Child	Male	Hemorrhagia neonatorum.
Oct. 31	do	Adult	Male	Tuberculosis, acute, miliary.
Nov. 11	Igorot	Adult	Male	Pneumonia, acute, lobar.
Nov. 15	Filipino	Adult	Female	Tuberculosis, pulmonary, acute miliary.
Nov. 17	Igorot	Adult	Male	Malaria, malignant (pneumonia).
Dec. 9	Filipino	Adult	Male	Pneumonia, acute, lobar.
Dec. 14	do	Child	Female	Malnutrition and rachitis.
1911.				
Jan. 6	Igorot	Adult	Male	Ptomaine poisoning.
Jan. 11	do	Adult	Female	Pneumonia, acute, lobar.
Jan. 29	Filipino	Child	Male	Pneumonia, lobar, acute.
Feb. 1	Afro-American	Adult	Male	Cystitis, suppurative; retention of urine; malaria.
Feb. 5	Filipino	Adult	Male	Malaria, estivo-autumnal (malignant).
Feb. 7	do	Adult	Female	Pneumonia, lobar, acute.
Feb. 26	do	Child	Female	Do.
Feb. 27	Spaniard	Adult	Female	Fecal fistula; intestinal obstruction; parotitis, acute.
Feb. 28	Igorot	Adult	Male	Pneumonia, lobar, acute.
Apr. 14	Filipino	Child	Male	Tuberculosis, acute, pulmonary.
May 18	do	Child	Male	Pneumonia, lobar.
June 7	do	Adult	Female	Malaria, estivo-autumnal (malignant.)
June 15	do	Adult	Female	Stab wound, chest.
June 21	American	Adult	Male	Pernicious malarial fever.

Total number of deaths during the year	30
Total number in dying condition when admitted living 24 hours or less after admission	11

Report of tuberculosis cases—patients under treatment three months or more.

[Classification used is that recommended by the National Association for Study and Prevention of Tuberculosis.]

Number patients treated three months or more	17
Number patients remaining in hospital July 1, 1911	9
Number cases to be reported on	8

Case No.	Race.	Sex.	Age.	Condition on admission.	Stage.	Lung involvement.
[a]57	American	Female	35	Moderately advanced	II	Right upper lobe.
306	do	Male	24	do	II	Do.
368	Filipino	Male	20	do	II	Left upper lobe.
19	do	Male	21	Far advanced	III	Right upper lobe, left upper lobe half left lower lobe.
22	do	Male	65	Moderately advanced	II	Left upper lobe.
179	do	Male	22	Incipient	I	Right apex.
245	American	Female	30	Moderately advanced	II	Do.
291	Filipino	Male	20	Incipient	I	Do.

[a] Fiscal year 1909–10.

Report of tuberculosis cases—patients under treatment, etc.—Continued.

Case No.	Weight.		Average maximum temperature 1 week.		Complication.	Days treated.	Condition on discharge.
	Admission.	Discharge.	Admission.	Discharge.			
	Kilos.	*Kilos.*	°*C.*	°*C.*			
[a]57	42	55	38.1	36.9	Pleurisy	235	Arrested.
306	67.7	71.8	37.5	36.8	Malaria	314	Do.
368	43	49	37	36.7	Pulmonary hemorrhage, otitis media (T. B.).	481	Improved.
19	47.5	[b]	37.2	37.9	Pulmonary hemorrhage, malaria	102	Progressive.
22	52	58	37	36.7	Pulmonary hemorrhage	111	Improved.
179	[c]	[d]	36.5	36.6	None	180	Arrested.
245	47.6	48	36.8	36.8	Laryngitis (T. B.)	87	Improved.
291	52	55	35.4	36.4	None	106	Arrested.

[a] Fiscal year 1909–10.
[b] Not weighed, lost weight.
[c] Not weighed.
[d] Gained at least 4 kilos.

Average stay, 189 days. Average gain in weight, 5.2 kilos (11½ pounds).

Amount of vaccine virus distributed by the Bureau of Health.

	Units.
Amount on hand July 1, 1910	7,100
Received from Bureau of Science	3,038,500
Total to be accounted for	3,045,600
Distributed as per itemized statement	3,031,200
Remaining on hand June 30, 1911	14,400

Places at which vaccine virus was distributed.

	Units.		Units.
Provinces:		Provinces:	
Albay	58,100	Palawan	600
Ambos Camarines	59,900	Pampanga	23,900
(Baguio Hospital division)	8,800	Pangasinan	64,000
Bataan	7,600	Rizal	21,850
Batangas	55,300	Romblon	25,000
Bulacan	88,400	Samar	100
Cagayan	60,500	Sorsogon	6,800
Cavite	16,200	Tarlac	7,000
Cebu	898,800	Tayabas	65,000
Corregidor Island	2,000	Union	39,300
(Culion leper colony)	25,500	Zambales	29,000
Ilocos Norte	71,700		
Ilocos Sur	148,800	Total	2,880,150
Iloilo	780,000		
Laguna	33,000	Manila:	
Leyte	165,000	Bureau of Navigation	300
Masbate	300	Health districts	132,050
Mindoro	9,100	Other institutions	18,700
Misamis	21,100		
Mountain	40,500	Total	151,050
Nueva Ecija	17,500		
Nueva Vizcaya	30,000	Grand total	3,031,200

Vaccinations.

[Closed July 26, 1911.]

	Vaccinations.	Inspections.	Positive.	Negative.
City of Manila:				
Health district No. 1, Intramuros	14,424	364	256	108
Health district No. 2, Meisic	41,518	5,670	3,919	1,751
Health district No. 4, Sampaloc	9,412	4,338	2,313	2,025
Health district No. 5, Tondo				
Health district No. 6, Paco	6,766	1,795	1,391	404
Total	72,120	12,167	7,879	4,288
Provinces:				
Albay	24,843	11,407	7,702	3,705
Ambos Camarines	24,648	15,587	9,342	6,195
Bataan	5,502	4,375	3,201	1,174
Bohol	47,967	37,040	23,946	13,094
Bulacan	22,543	18,958	14,026	4,932
Capiz	109,661	63,724	44,333	19,391
Cavite	13,826	12,623	7,974	4,649
Cebu	389,997	115,915	82,766	33,149
Ilocos Norte	37,105	33,385	15,086	18,299
Ilocos Sur	73,054	44,765	27,450	17,315
Iloilo	119,850	64,050	45,647	15,403
Isabela	20,071	261	180	81
La Laguna	22,986	20,719	12,147	8,572
La Union	19,053	17,324	10,558	6,766
Mindoro	831	527	365	162
Nueva Ecija	12,810	7,736	6,727	1,009
Occidental Negros	32,741	17,001	11,620	5,381
Pampanga	22,213	18,413	13,342	5,071
Pangasinan	30,664	22,054	13,471	8,583
Rizal	14,302	12,789	8,001	4,738
Tarlac	11,740	11,201	7,315	3,886
Tayabas	12,330	11,182	7,310	3,872
Zambales	27,668	16,121	13,069	3,052
Total	1,095,864	577,057	388,578	188,479
Grand total	1,167,984	589,224	396,457	192,767

Report of sera.

	Anti-pestic.	Plague prophylactic.	Assorted.
Bottles on hand at the beginning of the year	230	1,024	133
Received from the Bureau of Science			330
Total to be accounted for	230	1,024	463
Issued			330
Total bottles remaining at end of the year	230	1,024	133

Smallpox and plague, city of Manila.

Nationality.	Smallpox.				Varioloid.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans					2			
Filipinos					165	98		
Foreigners								
Chinese								
Total					167	98		

Smallpox and plague, city of Manila—Continued.

District and age.	Smallpox.		Varioloid.	
	Cases.	Deaths.	Cases.	Deaths.
Health Districts:				
No. 1, Intramuros			43	
No. 2, Meisic			111	
No. 4, Sampaloc			36	
No. 5, Tondo			60	
No. 6, Paco			15	
Total			265	
Ages:				
Under 1 year			7	
1 year to 10 years			79	
10 years to 20 years			90	
20 years to 30 years			64	
30 years to 40 years			14	
40 years to 50 years			5	
Over 50 years			6	
Unknown				
Total			265	

Number of cases found alive: Smallpox, 0; varioloid, 265.
Number of cases found dead: Smallpox, 0; varioloid, 0.

Cholera and plague, city of Manila.

Nationality.	Cholera.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	2	1	1					
Filipinos	127	82	92	56				
Foreigners	3			1				
Chinese	2		2					
Total	134	83	95	57				

District and age.	Cholera.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	29	9		
No. 2, Meisic	47	34		
No. 4, Sampaloc	28	16		
No. 5, Tondo	69	56		
No. 6, Paco	44	37		
Total	217	152		
Ages:				
Under 1 year	6	6		
1 year to 10 years	54	47		
10 years to 20 years	30	19		
20 years to 30 years	63	34		
30 years to 40 years	31	21		
40 years to 50 years	15	11		
Over 50 years	18	14		
Unknown				
Total	217	152		

Number of cases found alive: Cholera, 126; plague, 0.
Number of cases found dead: Cholera, 91; plague, 0.

Tuberculosis cases reported in Manila, during the fiscal year 1910–1911, by districts.[a]

Health districts.	Male.	Female.	Total.
No. 1, Intramuros	17	10	27
No. 2, Meisic	15	20	35
No. 4, Sampaloc	38	15	53
No. 5, Tondo	32	49	81
No. 6, Paco	23	20	43
Total	125	114	239

[a] Incomplete.

Does not include 15 provincial cases and 2 permanent residence not stated. Total actually reported, 256.

Cholera in the provinces.

Province.	Cases.	Deaths.	Per cent of deaths.
Albay:			
Bató	4	3	
Calolbón	5	5	
Daraga	1		
Tabaco	4	3	
Virac	60	42	
Total	74	53	71.62
Ambos Camarines:			
Baao	2	2	
Caramoan	51	36	
Total	53	38	71.69
Batangas:			
Alitagtag	8	7	
Batangas	573	370	
Bauan	249	154	
Calaca	9	6	
Cuenca	5	4	
Ibaán	83	54	
Lemery	89	73	
Lipa	29	14	
Loboc	16	4	
Rosario	51	19	
San José	33	25	
Taal	263	174	
Talisay	11	3	
Tanauan	5	1	
Total	1,424	908	63.76
Bulacan:			
Angat	77	47	
Ballwag	93	61	
Bocaue	91	56	
Bulacán	21	20	
Calumpit	9	7	
Hagonoy	79	58	
Malolos	81	60	
Meycauayan	5	3	
Norzagaray	39	28	
Obando	64	50	
Paombong	28	14	
Polo	6	5	
Pulilan	2	1	
Quingua	17	11	
San Ildefonso	3	3	
San Miguel	45	31	
San Rafael	11	8	
Santa María	31	24	
Total	698	491	70.34
Cavite:			
Bacoor	3	3	
Cavite	2	2	
Cavite—Continued.			
Imus	1	1	
Kawit	3	1	
Noveleta	18	12	
Total	22	19	86.36
Ilocos Sur:			
Cauayan	2		
Lapog	1	1	
Magsingal	4	3	
Narvacán	1	1	
Santa	28	14	
Santa Catalina	7	7	
Santo Domingo	22	19	
Tagudin	1	1	
Vigan	127	94	
Total	198	140	72.58
La Union:			
Bangar	1		
Rosario	4	3	
Total	5	3	60.00
Mindoro:			
Naujan	149	127	
Total	149	127	85.23
Mountain:			
Camp One	4	3	
Camp Four	1	1	
Camp Five	1	1	
Total	6	5	83.33
Nueva Ecija:			
Aliaga	109	78	
Cabanatuan	66	40	
Cabiao	57	36	
Cuyapo	29	18	
Gapán	52	42	
Jaén	9	8	
Licab	69	30	
Nampicuan	31	28	
Pantabangan	2	1	
Peñaranda	29	15	
San Antonio	44	33	
San Isidro	52	38	
San Leonardo	5	4	
Santa Rosa	36	23	
Talavera	3	3	
Zaragoza	1	1	
Total	594	398	66.48

Cholera in the provinces—Continued.

Province.	Cases.	Deaths.	Per cent of deaths.
Pampanga:			
Angeles	1	1	
Apalit	19	18	
Arayat	15	9	
Bacolor	11	10	
Candaba	9	9	
Guagua	24	23	
Lubao	16	11	
Macabebe	4	4	
Magalang	2	2	
Masantol	8	7	
México	1	1	
Minalin	22	20	
Porac	11	9	
San Fernando	11	10	
San Luis	10	9	
San Simón	8	8	
Santa Rita	13	13	
Sexmoan	12	11	
Total	197	175	88.83
Pangasinan:			
Aguilar	35	26	
Alaminos	133	78	
Alava	1	----	
Alcalá	50	39	
Anda	3	----	
Asingan	65	47	
Balungao	88	78	
Bani	87	82	
Bautista	62	47	
Bayambang	37	34	
Binalonan	97	89	
Binmaley	12	10	
Bolinao	52	29	
Calasiao	89	71	
Dagupan	126	113	
Lingayen	35	34	
Malasiqui	18	14	
Manaoag	244	212	
Mangaldan	116	107	
Mangatarem	23	16	
Mapandan	49	40	
Natividad	2	2	
Posorrubio	89	66	
Rosales	32	25	
Salasa	10	10	
San Carlos	39	28	
San Fabián	87	68	
San Isidro	1	1	
San Jacinto	57	38	
San Manuel	6	5	
San Nicolás	8	7	
San Quintin	25	18	
Santa Bárbara	48	46	
Pangasinan—Cont.			
Santa María	71	58	
Santo Tomás	69	44	
Sual	56	36	
Tayug	21	19	
Umingan	52	41	
Urbiztondo	66	43	
Urdaneta	122	125	
Villasis	147	97	
Total	2,480	1,898	77.90
Rizal:			
Antipolo	2	2	
Binangonan	104	64	
Caloocan	5	1	
Fort McKinley	3	----	
Las Piñas	13	6	
Malabon	21	21	
Mariquina	8	5	
Navotas	26	22	
Pasay	2	2	
Pasig	46	30	
Parañaque	1	1	
Pateros	7	6	
Pililla	26	19	
San Felipe Neri	11	5	
San Juan del Monte	1	----	
San Pedro Macati	8	8	
Taguig	24	20	
Taytay	11	9	
Total	319	216	67.71
Tarlac:			
Camiling	24	23	
Concepción	2	2	
Gerona	58	54	
La Paz	20	14	
Moncada	1	2	
Paniqui	107	73	
Pura	2	1	
San Manuel	14	10	
Total	228	179	78.50
Tayabas:			
Boac	37	22	
Tayabas	2	2	
Lucena	1	1	
Total	40	25	62.50
Grand total and average	6,432	4,670	74.00

Mortality among Government employees.

[Closed July 25, 1911.]

	Americans.	Filipinos.
Average number of employees	2,366	11,905
Deaths reported:		
From illness	17	26
Violence	4	8
Cause not reported	----	1
Total	21	35
Deaths from illness:		
Average years of service	2.78	5.75
Average age at death	33	33
Annual death rate per 1,000	7.18	2.18
Deaths from violence:		
Average years of service	2.67	2.69
Average age at death	26	43
Annual death rate per 1,000	1.69	0.67
Deaths from cause not reported:		
Average years of service	----	0.33
Average age at death	----	(?)
Annual death rate per 1,000	----	0.08
All deaths:		
Average years of service	2.78	5.09
Average age at death	32	34
Annual death rate per 1,000	8.87	2.93
Both nationalities:		
Population	14,271	
Number of deaths	56	
Average years of service	4.26	
Average age at death	32	
Annual death rate per 1,000	3.92	

All are males with the exception of one American and one Filipina.

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1910.

	Agusan.	Albay.	Ambos Camarines.	Antique.	Bataan.	Batanes.	Batangas.
Average of population	18,094	245,537	242,254	134,400	46,044	8,002	294,884
Births	497	11,893	9,269	5,018	2,066	283	11,365
Annual birth rate per 1,000	27.57	48.43	38.26	37.33	44.87	35.14	52.43
Deaths:							
From 0 to 1 year	106	1,714	1,433	690	608	67	3,147
From 1 to 2 years	28	591	692	385	165	14	895
From 2 to 5 years	44	743	866	464	166	8	1,090
From 5 to 10 years	21	310	341	206	76	5	453
From 10 to 20 years	28	330	411	162	69	8	496
From 20 to 30 years	35	459	478	150	123	15	789
From 30 to 40 years	18	317	356	144	110	13	572
From 40 to 50 years	23	322	306	123	100	13	452
From 50 to 60 years	17	320	332	106	83	25	413
Over 60 years	21	884	784	298	153	64	755
Unknown	10	1	8	1	0	0	4
Causes of death:							
Typhoid fever	21	78	66	9	17	0	118
Malarial fever	44	449	561	417	227	8	1,442
Malarial cachexia	0	32	13	7	50	1	328
Smallpox	0	0	0	388	0	0	0
Whooping cough	5	39	81	9	4	0	37
Cholera	0	12	51	0	54	0	841
Dysentery	55	212	1,124	389	136	3	547
Other epidemic diseases (beriberi)	8	45	72	0	13	0	79
Tuberculosis—							
Of the lungs	4	340	473	282	127	18	711
Of other organs	2	61	57	10	27	3	177
Congestion and hemorrhage of the brain	0	23	5	0	13	1	27
Convulsions of children	53	978	451	199	330	24	1,385
Bronchitis, acute	2	322	90	1	26	1	313
Diarrhea and enteritis—							
Under 2 years	0	117	30	49	16	5	89
Under 2 years, chronic	1	68	45	76	27	3	78
2 years and over	3	147	46	73	40	3	98
Violence—							
Suicide	0	3	9	1	3	0	37
Not suicide	4	26	33	20	5	3	58
All other diseases	149	3,019	2,750	694	538	159	2,706
Total	351	5,991	5,967	2,724	1,653	282	9,066
Males	204	3,088	3,132	1,379	902	126	4,816
Females	147	2,903	2,825	1,345	751	105	4,250
Annual death rate per 1,000	19.39	24.39	24.58	20.26	35.90	28.81	30.74
A classified report of all deaths occurring:							
Males—							
Married	44	630	606	198	189	39	989
Widowers	15	339	340	109	76	14	312
Single	23	286	322	98	75	7	368
Boys	122	1,833	1,862	977	562	66	3,138
Condition not stated	0	0	2	2	0	0	9
Females—							
Married	35	612	567	251	167	22	920
Widows	19	467	471	188	90	40	574
Single	11	308	247	101	34	12	272
Girls	82	1,516	1,537	805	445	32	2,472
Condition not stated	0	0	3	0	15	0	12

General return of births and deaths, etc.—Continued.

	Bohol.	Bulacan.	Cagayan.	Capiz.	Cavite.	Ilocos Norte.	Ilocos Sur.
Average of population	269,223	225,756	137,155	225,025	139,707	174,642	210,831
Births	11,865	10,869	5,565	9,014	6,643	8,572	9,954
Annual birth rate per 1,000	44.67	48.14	40.57	40.05	47.54	49.08	47.21
Deaths:							
From 0 to 1 year	1,589	3,404	1,261	1,287	1,908	1,097	1,572
From 1 to 2 years	654	673	584	476	582	446	606
From 2 to 5 years	795	1,114	614	690	528	684	856
From 5 to 10 years	478	375	289	384	154	288	343
From 10 to 20 years	482	350	234	339	174	283	264
From 20 to 30 years	437	683	295	383	334	278	369
From 30 to 40 years	348	662	306	319	280	247	377
From 40 to 50 years	275	478	255	298	228	219	305
From 50 to 60 years	288	399	218	322	216	208	294
Over 60 years	961	1,016	502	637	492	664	800
Unknown	22	1	3	23	2	2	6
Causes of death:							
Typhoid fever	0	121	14	27	23	27	57
Malarial fever	516	470	974	562	645	1,029	1,290
Malarial cachexia	468	42	70	75	260	106	59
Smallpox	22	17	0	421	0	0	32
Whooping cough	253	36	6	130	20	27	103
Cholera	23	784	0	0	116	0	1
Dysentery	418	418	337	637	312	396	641
Other epidemic diseases (beriberi)	32	273	44	51	62	28	18
Tuberculosis—							
Of the lungs	310	882	249	479	314	435	517
Of other organs	12	232	45	50	41	98	17
Congestion and hemorrhage of the brain	0	61	4	9	23	3	6
Convulsions of children	268	2,820	417	270	1,299	886	528
Bronchitis, acute	14	216	28	86	132	42	92
Diarrhea and enteritis—							
Under 2 years	2	44	6	60	125	29	105
Under 2 years, chronic	2	79	13	44	151	17	83
2 years and over	7	166	21	80	152	84	38
Violence—							
Suicide	32	8	10	16	3	3	9
Not suicide	25	31	27	80	22	42	51
All other diseases	3,990	2,455	2,296	2,081	1,138	1,559	2,145
Total	6,829	9,155	4,561	5,108	4,833	4,311	5,792
Males	3,194	4,817	2,449	2,611	2,581	2,216	2,994
Females	3,135	2,338	2,112	2,497	2,257	2,095	2,798
Annual death rate per 1,000	23.50	40.55	33.25	22.69	34.62	24.68	27.47
A classified report of all deaths occurring:							
Males—							
Married	618	963	530	539	485	499	591
Widowers	207	388	251	231	181	215	261
Single	251	379	175	260	175	181	205
Boys	1,975	2,968	1,488	1,579	1,712	1,304	1,920
Condition not stated	43	119	5	2	28	17	17
Females—							
Married	655	1,004	400	467	420	433	619
Widows	401	550	324	467	334	296	395
Single	469	321	119	240	116	201	191
Girls	1,581	2,370	1,267	1,317	1,365	1,160	1,566
Condition not stated	29	93	2	6	22	5	27

General return of births and deaths, etc.—Continued.

	Iloilo.	Laguna.	Leyte.	Misamis.	Nueva Ecija.	Nueva Vizcaya	Occidental Negros.
Average of population	408,260	144,522	494,602	132,601	132,999	19,720	304,698
Births	16,841	6,985	18,936	5,671	5,450	644	11,017
Annual birth rate per 1,000	41.76	47.98	38.28	42.76	40.97	32.65	36.16
Deaths:							
From 0 to 1 year	2,378	1,903	2,565	1,110	1,243	163	2,018
From 1 to 2 years	985	482	1,086	265	225	56	964
From 2 to 5 years	1,420	500	1,267	320	795	95	1,211
From 5 to 10 years	555	184	934	188	318	54	464
From 10 to 20 years	559	217	953	215	303	50	482
From 20 to 30 years	729	435	983	385	470	79	666
From 30 to 40 years	620	356	646	208	386	64	484
From 40 to 50 years	540	333	548	167	302	58	474
From 50 to 60 years	502	319	501	132	242	50	186
Over 60 years	777	585	932	275	571	113	620
Unknown	0	14	187	37	3	0	28
Causes of death:							
Typhoid fever	44	152	54	154	43	2	18
Malarial fever	712	783	610	582	752	284	1,016
Malarial cachexia	308	224	139	22	228	2	256
Smallpox	221	9	60	0	32	0	190
Whooping cough	42	63	135	62	34	2	38
Cholera	0	1	187	41	379	0	0
Dysentery	997	353	1,312	282	178	84	1,475
Other epidemic diseases (beriberi)	61	55	212	87	31	14	69
Tuberculosis—							
Of the lungs	1,116	628	691	220	527	112	792
Of other organs	255	33	11	58	45	3	17
Congestion and hemorrhage of the brain	27	34	10	4	9	0	12
Convulsions of children	1,577	1,025	904	155	914	101	1,188
Bronchitis, acute	222	95	176	2	80	1	20
Diarrhea and enteritis—							
Under 2 years	183	57	108	11	97	6	82
Under 2 years, chronic	46	66	93	5	50	0	23
2 years and over	215	77	282	25	92	6	104
Violence:							
Suicide	10	9	16	16	2	0	15
Not suicide	55	48	144	3	1	5	54
All other diseases	2,994	1,460	5,458	1,458	1,666	210	2,490
Total	9,085	5,328	10,602	3,197	5,160	782	7,799
Males	4,839	2,799	5,606	1,701	2,742	404	4,220
Females	4,246	2,529	4,996	1,496	2,418	378	3,579
Annual death rate per 1,000	22.52	36.86	21.43	24.10	38.79	39.65	25.59
A classified report of all deaths occurring:							
Males—							
Married	859	662	941	402	690	115	700
Widowers	310	240	407	104	231	44	408
Single	396	202	534	149	246	37	405
Boys	3,063	1,654	3,378	1,081	1,556	1,199	2,649
Condition not stated	11	41	346	15	19	9	58
Females—							
Married	770	589	1,019	356	553	92	691
Widows	707	393	584	155	344	57	433
Single	335	155	437	107	159	22	217
Girls	2,422	1,351	2,720	852	1,361	173	2,138
Condition not stated	12	41	286	26	1	4	50

General return of births and deaths, etc.—Continued.

	Pampanga.	Pangasinan.	Rizal.	Romblon.	Surigao.	Tarlac.	Tayabas.	Union.
Average of population	225,113	439,766	152,058	55,559	79,108	139,971	201,936	128,893
Births	12,080	22,128	2,536	1,694	2,061	6,976	7,388	6,223
Annual birth rate per 1,000	53.66	50.31	56.13	30.49	26.05	49.83	36.58	48.28
Deaths:								
From 0 to 1 year	2,856	3,683	2,625	275	304	1,516	1,749	710
From 1 to 2 years	772	1,985	506	114	141	557	490	329
From 2 to 5 years	943	3,043	536	146	132	757	491	388
From 5 to 10 years	408	1,463	144	77	90	310	251	161
From 10 to 20 years	290	1,191	202	90	87	297	351	186
From 20 to 30 years	512	1,648	417	96	90	468	484	199
From 30 to 40 years	542	1,368	374	83	49	324	412	135
From 40 to 50 years	396	976	287	86	54	253	337	107
From 50 to 60 years	312	778	300	80	59	202	354	117
Over 60 years	336	2,090	658	168	104	510	698	390
Unknown	2	11	42	0	24	0	5	0
Causes of death:								
Typhoid fever	213	271	77	27	8	134	79	158
Malarial fever	923	2,192	298	188	215	805	579	317
Malarial cachexia	244	474	174	18	5	241	177	122
Smallpox	0	0	5	7	0	1	54	0
Whooping cough	14	75	34	4	9	44	123	17
Cholera	516	3,144	236	0	0	876	4	0
Dysentery	292	1,782	302	59	184	242	251	468
Other epidemic diseases (beriberi)	109	81	251	29	6	42	68	16
Tuberculosis—								
Of the lungs	894	1,654	433	85	24	500	656	174
Of other organs	58	86	137	13	5	41	103	48
Congestion of the brain	37	46	47	34	0	12	36	14
Convulsions of children	1,954	2,138	1,860	94	23	861	607	302
Bronchitis, acute	122	150	227	11	7	36	164	33
Diarrhea and enteritis—								
Under 2 years	66	78	50	8	14	19	52	7
Under 2 years, chronic	69	83	88	3	16	16	35	23
2 years and over	74	294	85	12	12	73	37	31
Violence—								
Suicide	19	0	4	5	0	3	6	4
Not suicide	34	119	44	4	5	37	38	25
All other diseases	2,231	5,519	1,739	614	601	1,711	2,603	963
Total	7,869	18,136	6,091	1,215	1,134	5,194	5,672	2,722
Males	4,178	9,567	3,195	629	661	2,760	2,987	1,426
Females	3,691	8,579	2,896	586	473	2,434	2,685	1,296
Annual death rate per 1,000	34.95	41.24	40.05	21.86	14.33	37.10	28.08	21.11
A classified report of all deaths occurring:								
Males—								
Married	823	2,397	577	144	133	626	806	303
Widowers	252	801	259	89	39	210	257	188
Single	273	561	201	61	50	150	203	102
Boys	2,795	5,762	2,133	335	434	1,774	1,718	881
Condition not stated	5	36	25	0	5	0	8	2
Females—								
Married	786	2,229	613	139	100	541	709	275
Widows	489	1,140	390	114	47	326	418	198
Single	205	448	120	50	51	111	174	97
Girls	2,251	4,757	1,757	283	272	1,455	1,381	730
Condition not stated	10	5	16	0	3	1	3	1

STATEMENT OF EXPENDITURES.

The following statement shows the expenditures made during the fiscal year 1911 chargeable against the appropriation made by Act 1989 for the Bureau of Health during that period:

Amount appropriated		₱1,417,000.00
Transferred from last year's appropriation for accounts payable, fiscal year 1910		13,282.22
Carried from fiscal year 1910 for contingent liabilities		232,284.13
Amount restored during the fiscal year		92,500.00
Total		1,755,066.35
Expenditures chargeable as follows:		
General:		
Salaries and wages	₱138,956.20	
Transportation in Manila	11,018.60	
Stationery and office supplies	2,882.50	
Repairs to furnitures	957.35	
Telephone rent	1,253.67	
Incidentals	7,117.02	
Light, sanitary stations	1.76	
Postage and telegrams	3,586.31	
Cablegrams	236.11	
Printing and binding	12,599.42	
Periodicals	72.34	
Street-car tickets	3,280.00	
Hospicio de San José	44,587.85	
Colegio de Santa Isabel	3,001.70	
Asilo de San Vicente de Paul	3,600.00	
Protection of infants	3,499.93	
Hookworm campaign	130.14	
Rent, sanitary station	240.00	
Disinfectants, sanitary stations	9,498.94	
Rent, post-office box	32.00	
Repairs disinfecting apparatus	1.80	
Medicines, Central Free Dispensary	3,127.39	
Incidentals, Central Free Dispensary	44.30	
Medicines, Philippine Medical School	594.91	
Medicines, medical and surgical supplies for indigent persons	10,908.77	
Traveling expenses and per diems of employees	4,987.65	
Flannel for infants	639.21	
Commutation of leave and transportation of employees to and from United States	27,794.15	
Miscellaneous and freight	1,293.43	
Treatment of Government employees at Iloilo	2,990.00	
Salaries of secretary-treasurers and examination fees of members of the Boards of Medical, Pharmaceutical, and Dental Examiners	1,249.00	
Outdoor treatment of tuberculosis	13,614.30	
Equipment for tuberculosis cottages and night camp	4,851.27	
Equipment for temporary use of employees	861.69	
Equipment miscellaneous, property division	(3,588.12)	
New furniture	3,336.51	
Stock, miscellaneous articles and supplies	(18,736.37)	
		300,521.73

Inspection division:		
Salaries and wages—		
Medical inspectors	₱60,224.51	
District health officers	49,650.42	
Sanitary inspectors and employees	8,818.43	
Traveling expenses and per diems of—		
Medical inspectors	2,206.35	
District health officers	6,437.11	
Sanitary inspectors	1,925.97	
Serum, antiplague	283.45	
Sera, miscellaneous	27.76	
Photographs	327.62	
Transportation in the city	8,823.15	
Keeping automobile	3,993.17	
Transportation equipment	10,608.85	
Financial aid to municipality of Quingua for the completion of organization of health district of Bulacan Province	500.00	
		₱153,825.79
Vaccination division:		
Salaries and wages	30,615.63	
Traveling expenses of vaccinators	4,429.36	
Vaccine virus	30,644.77	
Antiseptic supplies and dressings	1,195.21	
Ice for virus	484.95	
		67,369.92
San Lazaro Hospital division:		
Salaries and wages	33,427.41	
Subsistence supplies	37,356.94	
Light	3,377.20	
Telephone rent	297.00	
Forage and horseshoeing	10.50	
Transportation	539.04	
Clothing for lepers	524.29	
Office supplies and incidentals	2,897.73	
Laundry allowances	102.08	
Repairs	358.53	
Medicines, medical and surgical supplies	5,467.07	
Fuel	2,339.85	
Soap	2,317.43	
Cigarettes and tobacco	156.64	
Gratuity to lepers	553.31	
Commutation of subsistence	23.33	
Construction of sewers	8,042.35	
New furniture and equipment	5,000.04	
		102,790.74
Civil Hospital division:		
Salaries and wages	11,770.63	
Commutation of subsistence	480.00	
Subsistence supplies	5,149.28	
Rent of building	2,058.25	
Laundry hospital	1,408.90	
Laundry allowances	242.34	
Light	742.20	
Transportation	580.22	

Civil Hospital division—Continued.		
Telephone rent	₱57.64	
Repairs	90.60	
Incidentals	7,849.56	
Miscellaneous supplies	1,545.21	
Equipment	(7,536.48)	
		₱24,438.35
Philippine General Hospital division:		
Salaries and wages	63,116.05	
Commutation of subsistence	1,589.65	
Subsistence supplies	67,197.20	
Light	6,195.81	
Telephone rent	868.79	
Coal, oil, gas, and steam	4,782.66	
Laundry hospital	9,604.35	
Laundry allowances	1,615.22	
Transportation	1,971.95	
Medicines, medical and surgical supplies	18,383.26	
Repairs	142.04	
Maintenance of grounds	3,802.72	
Office supplies	1,138.90	
Miscellaneous supplies	13,618.94	
Incidentals	1,281.40	
Salaries, laundry allowances, and subsistence of pupil nurses	30,165.34	
Hospital equipment	153,447.25	
Improvements on building	572.39	
		379,493.92
Culion leper colony division:		
Salaries and wages	24,776.06	
Subsistence supplies	124,994.39	
Medicines, medical and surgical supplies	10,739.26	
Bedding, towels, and linen, lepers	741.62	
Gratuity to lepers	23,018.80	
Incidentals	1,402.81	
Clothing lepers	5,044.52	
Freight	9,666.53	
Repairs	2,507.69	
Stationery and printing	220.95	
Miscellaneous supplies	2,389.23	
Collection of lepers	19,565.97	
Construction	73,472.84	
Equipment hospital	1,324.44	
Equipment kitchen	68.80	
Equipment various	5,513.70	
Stock account	15,676.82	
		321,124.43
Prison sanitation division:		
Salaries and wages	6,770.00	
Commutation of laundry, subsistence, and quarters	382.40	
Medicines, medical and surgical supplies	8,220.68	
Disinfectants	979.34	
		16,352.42

Baguio Hospital division:		
Salaries and wages	₱9,672.39	
Commutation of subsistence	1,215.09	
Subsistence supplies	9,166.78	
Repairs	1,040.86	
Laundry hospital	1,034.81	
Laundry allowances	199.18	
Fuel	363.90	
Stationery and incidentals	1,101.14	
Disinfectants	163.76	
Medicines and medical supplies	2,157.64	
Freight	1,137.37	
Light	829.84	
Surgical supplies	206.60	
Equipment	811.26	
Improvement on building	17.75	
Stock account	6,152.13	
		₱35,270.50
Suppression and extermination of epidemic diseases and pests:		
Salaries and wages	17,282.46	
Miscellaneous expenses	16,300.08	
Disinfecting apparatus	107.80	
		33,690.34
Set aside for permanent improvements:		
Government Center, Baguio	5,098.04	
Service hall, Philippine General Hospital	66,942.52	
For the completion of nurses and doctors' quarters, San Lazaro Hospital	6,000.00	
For the completion of Southern Hospital, Cebu	50,000.00	
		128,040.56
Transferred to other Bureaus:		
Bureau of Science		40,000.00
Grand total		1,602,918.70

In addition to the foregoing statement of actual expenditures are the following outstanding obligations chargeable to the appropriation of the Bureau and funds appropriated for same during the fiscal year 1911:

General:		
Salaries and wages	₱44.17	
Stationery and office supplies	.21	
Incidentals	549.95	
Printing and binding	1,200.00	
Periodicals	6.00	
Traveling expenses and per diems	951.63	
Miscellaneous supplies and freight	500.00	
Treatment of Government employees at Iloilo	319.25	
Salaries and fees of Board of Examiners	213.00	
Construction of tuberculosis cottages at Baguio	8,000.00	
Construction of Filipino cottages at Baguio	1,100.00	
New furniture	149.50	
Stock	89,062.75	
		₱102,096.46

Inspection division:		
Salaries and wages of district health officers	₱30.00	
Traveling expenses of medical inspectors	95.50	
Traveling expenses of district health officers	555.94	
Keeping automobile	.80	
		₱682.24
Vaccination division:		
Salaries and wages	375.00	
Traveling expenses of vaccinators	728.54	
Ice for virus	67.39	
		1,170.93
San Lazaro Hospital Division:		
Subsistence supplies	5,577.87	
Light	1,250.70	
Office supplies and incidentals	10.00	
Repairs	65.00	
Gratuity to lepers	511.37	
		7,414.94
Philippine General Hospital:		
Salaries and wages	453.33	
Commutation of subsistence	3,733.48	
Laundry allowances	2.20	
Transportation	9.68	
Medicines, medical and surgical supplies	12.36	
Repairs	207.00	
Incidentals	282.72	
Salaries, laundry allowances and subsistence of pupil nurses	55.86	
		4,756.63
Culion leper colony division:		
Salaries and wages	1,311.29	
Subsistence supplies	4,953.30	
Incidentals	25.00	
Freight	1,032.10	
Collection of lepers	3,387.39	
Construction	5,192.19	
Stock account	11,055.29	
		26,957.06
Prison sanitation division:		
Commutation of subsistence and quarters		35.00
Baguio Hospital division:		
Subsistence supplies	602.00	
Repairs	309.92	
Stationery and incidentals	39.00	
Freight	100.00	
Light	152.50	
Stock account	7,135.54	
		8,338.96
Grand total		151,452.22
The following amounts as credit were collected during the year:		
Collections of the cashier, Bureau of Health		₱63,337.28
Collections of the cashiers, Civil and General Hospitals		31,182.63
Collections of the cashier, Baguio Hospital		7,647.51
Collections of the secretary-treasurer, Board of Medical Examiners		1,430.00

Collections of the secretary-treasurer, Board of Pharmaceutical Examiners		₱1,220.00
Collections of the secretary-treasurer, Board of Dental Examiners		160.00
Sales of disinfectants, medicines, and equipment		3,812.75
Deductions from salaries of employees on account of hospital bills		5,416.12
Charges against city of Manila for beds at Philippine General Hospital		15,816.50
Charges against Philippine Medical School for beds at Philippine General Hospital		22,624.00
Amount turned over by Bureau of Public Works as net receipts of the operation of Sibul Spring baths		387.46
Deductions from salaries of employees on account of articles lost		17.60
Care and maintenance of insane scouts at San Lazaro Hospital		2,698.30
Services of employees to other Offices and Bureaus		1,734.11
Miscellaneous		17.12
Accounts receivable		64,135.71
Total		221,637.09
Of the above collections the following sum pertains to the fiscal year 1910 as account receivable of that year		33,175.00
Total receipts		188,462.09
Total funds made available during the fiscal year 1911		₱1,755,066.35
Total expenses and expenditures during the year	₱1,602,918.70	
Outstanding liabilities	151,452.22	
Total	1,754.370.92	
Receipts for fiscal year 1911	188,462.09	
Total chargeable against general funds		1,565,908.83
Total available		189,157.52

The following statement shows the expenditures made from appropriation made by Act No. 1992 for the Bureau of Health for the Mountain and Moro Provinces, Nueva Vizcaya and subprovince of Agusan:

Appropriated		₱28,000.00
Accounts payable		454.94
Total		28,454.94
Expenditures:		
Salaries and wages	10,460.51	
Miscellaneous expenses	4,501.26	
Equipment	129.98	
Liabilities estimated	2,500.00	
		17,591.75
Balance available		10,863.19

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PRIVATE ROOM WITH BATH, TELEPHONE, ETC., PHILIPPINE GENERAL HOSPITAL.

SECTION OF MAIN KITCHEN, PHILIPPINE GENERAL HOSPITAL.

CHIEF NURSE, FOUR GRADUATE FILIPINA NURSES, AND FILIPINA PUPILS OF THE TRAINING SCHOOL FOR NURSES, PHILIPPINE GENERAL HOSPITAL.

CHIEF NURSE AND FILIPINO PUPILS OF THE TRAINING SCHOOL FOR NURSES, PHILIPPINE GENERAL HOSPITAL.

NEW LAUNDRY, SAN LAZARO HOSPITAL DIVISION.

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Well-built Spanish retaining wall.

ESTERO DE BINONDO.

Note (1) lack of retaining walls, (2) outlet of sewer, (3) commercial importance. This is in the heart of the business section.

JOLO BRIDGE, ESTERO DE JOLO.

Note commercial importance and lack of satisfactory retaining wall.

LANDINGS ON PASIG RIVER OPPOSITE ISLA DE CONVALECENCIA.

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Entrance to dwelling direct from the estero.

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Bureau of Navigation dredge at work.

Sa 3715.25

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF THE INTERIOR
BUREAU OF HEALTH

ANNUAL REPORT OF THE BUREAU OF HEALTH *for the* PHILIPPINE ISLANDS

FOR THE FISCAL YEAR ENDED
JUNE 30, 1912

BY

VICTOR G. HEISER
DIRECTOR OF HEALTH
Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service

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ANNUAL REPORT OF THE BUREAU OF HEALTH.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, July 16, 1912.

SIR: I have the honor to submit herewith the following report, which is a statement, in general terms, of the health and medical work carried on by the Bureau of Health for the year ended June 30, 1912, and the thirteenth annual report of this division of the Government of the Philippine Islands.

THE YEAR IN BRIEF.

During the year the sanitary and medical organization has been severely tested, and has emerged from the trial with a record that is all that the originators of the plan could hope for. At no other time have the Philippines been so seriously threatened by the invasion of diseases like cholera, plague, and smallpox from near-by countries, and by outbreaks of disease resulting from the most unusual drought which prevailed in the Philippines during the year, yet, in spite of this fact, the health conditions have been better than those experienced at any time since American occupation. Tremendous strides have been made in bringing medical and surgical relief to literally thousands of persons who have never before had an opportunity of enjoying blessings of this kind.

THE OUTLOOK.

On account of the state of the public health at the close of the year, and the satisfactory conditions under which the new year is begun, it is believed to be safe to state that we are on the threshold of the time when the expectancy of life in the Philippines will compare favorably with that in other parts of the world, and that it will be safe for commercial enterprise to make its calculations for the future without fear that disastrous epidemics with their attendant quarantine and other restrictions must be reckoned with.

REDUCTION IN MANILA'S DEATH RATE BY THE USE OF MONTALBAN WATER.

ONE ASPECT OF ITS ECONOMIC VALUE.

The increase in Manila's death rate attributed to the use of water drawn from the Mariquina River instead of from the Montalban Reservoir is fully discussed elsewhere in this report. It may now be of interest to review the decrease in the death rate of Manila since the Montalban supply became available. During the five years preceding 1908 the average number of deaths from the following diseases was:

Dysentery	339
Diarrhea and enteritis under 2 years of age	277
Diarrhea and enteritis over 2 years of age	343
Diarrhea and chronic enteritis	228
Convulsions of children	1,921
Meningitis, simple	450

During the fiscal year 1911, or two full years after the Montalban water became available for the city of Manila, and before the recent disturbances due to the breaking of the pipe line and the long drought were factors in the situation, the number of deaths was as follows:

Dysentery	132
Diarrhea and enteritis, under 2 years of age	235
Diarrhea and enteritis over 2 years of age	144
Diarrhea and chronic enteritis	113
Convulsions of children	500
Meningitis, simple	71

From the foregoing it will be seen that there were 300 per cent more deaths from dysentery previous to the installation of the water supply; 11 per cent more from diarrhea and enteritis, under 2 years of age; 230 per cent more from diarrhea and enteritis, over 2 years of age; 380 per cent more from convulsions of children, and 450 per cent more from simple meningitis. Before proceeding further with the analysis of these figures, it may, perhaps, be proper to state that typhoid fever has not been included because the statistics are so notoriously unreliable, that any deductions made might be very misleading. Cholera has not been included because it is reasonably certain that the cholera that occurs in Manila is not directly connected with the public water supply. Convulsions of children, although not ordinarily regarded as an intestinal disease may well be classified in this category, under the conditions which exist here. Simple meningitis is included among intestinal diseases, not because it is believed to be connected with them, but because

several years ago an extensive series of autopsies showed that, with the exception of a few cases of tubercular meningitis, all the cases that were so diagnosed were cholera, dysentery, or some other form of intestinal disease.

From the foregoing then, it will be apparent that the total number of deaths in 1911 from the diseases above mentioned, was 1,195, and the average total number of deaths annually during the five years preceding, was 3,558, so that it is seen that there were 300 per cent more deaths from these diseases prior to 1908 than there were during the year 1911.

The value of a human life has been variously rated. Professor Irving Fisher estimates that, in the United States, a human life, at 5 years of age, is worth $950, and steadily increases in value until, at the age of 30 years, it is worth $4,000. As the earning capacity in the Orient is no doubt less than in the United States, it is estimated that a fair average would be $500 per life. If then, there were, as shown above, 2,363 lives saved, and estimating their value at $500, or ₱1,000 each, it will be apparent that for one year alone the saving amounts to ₱2,363,000.

LOW DEATH RATE AMONG GOVERNMENT EMPLOYEES.

The death rate among Government employees for the year was 4.84 per 1,000. Even when reasonable allowance is made for the lack of very old people and young children among these employees, and due consideration is given to the fact that they are, for the most part, preferred risks, yet the death rate is still exceptionally low, and believed to be less than that for any other tropical country. An interesting feature in connection with the death rate is the fact that among Americans it was 7.71 per 1,000, while among Filipinos, it was 3.68 per 1,000. It is believed to be reasonable to infer that the better living conditions which prevail among Government employees, and their knowledge of hygiene, largely account for the death rate among Filipinos in the Government service being so much lower than it is among Filipinos of the general population. This low death rate also furnishes an idea of what might be accomplished among the general population if the living conditions among them could be made as favorable as they are for Government employees. These figures apply to 2,852 Americans and 7,063 Filipinos, and when it is remembered that the death rates given above have remained substantially the same for the past three years, it is believed that the figures give an excellent idea of the expectancy of life in the Philippine Islands.

FREE QUININE AND MALARIA.

In the latter part of 1909, the Bureau of Health, with a view to relieving distress, and the hope of reducing the death rate from malaria in the Province of Ambos Camarines, distributed gratuitously one-half million 5-grain doses of quinine sulphate. It is interesting to note that the death rates from malaria before and after the quinine distribution were as follows:

Year.	Quarter.				Total.
	First.	Second.	Third.	Fourth.	
1907	189	269	208	321	987
1908	137	225	159	232	753
1909	168	160	247	202	777
1910	129	123	168	131	561

In 1911, when there was no further gratuitous distribution of quinine, it will be noted that the deaths from malaria immediately increased, as is shown by the following figures:

First quarter, 1911	170
Second quarter, 1911	196
Third quarter, 1911	142

It is rather a crude experiment, and it is of course, impossible to say whether the distribution of the quinine influenced the death rate as favorably as the figures seem to indicate, or whether it has been due to other causes operating during that time. There is no doubt, however, that an enormous amount of distress and suffering were relieved.

FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

The second biennial congress of the Far Eastern Association of Tropical Medicine held its session at Hongkong under the presidency of the Honorable J. M. Atkinson, M. B., with F. Clark, M. D., as secretary, from January 20 until January 27, when it adjourned to meet again at Saigon two years hence. The official delegates from the Philippine Islands for the Civil Government were the Director of Health and the Director of the Bureau of Science. The United States Army detailed three of its medical officers, and the United States Navy one medical officer, to attend the congress. There were present delegates from Japan, German China, Shanghai, Hongkong, Macao, Canton, Indo-China, Straits Settlements, Federated Malay States, India, Ceylon, Australia, and Java.

The influence of the congress in promoting friendly relationships between the different Oriental countries is of inestimable

value and has proved also of great value in promoting the interests of sanitation throughout the Orient.

The delegates from the Philippine Islands are under very considerable obligations for the many courtesies, both official and private, which were extended to them during their visit to Hongkong.

The two points of paramount interest to the Philippines which were discussed at the congress, were the questions of beriberi and of quarantine. The final results of the discussion which ensued upon these subjects are embodied in the following resolutions which were almost unanimously passed by the congress:

That the accuracy of the opinion of this association recorded in 1910 has received further and more complete confirmation by investigators in Japan, China, French Indo-China, the Philippine Islands, Siam, Netherlands-India, the Straits Settlements, and the Federated Malay States, namely, that beriberi is associated with the continuous consumption of white (polished) rice as the staple article of diet.

It is, therefore, again desired to bring this opinion to the notice of the various governments concerned, and to recommend international action.

That the resolutions adopted at the last congress be amended to read as follows:

"(1) To have a definition of the 'status sporadicus' and a common standard for the term 'epidemic' when making reports to, or imposing quarantine against, each other.

"The following definitions are submitted for consideration: 'Status sporadicus' in respect of any communicable disease means the existence in a place, within the next preceding fourteen days, of a case or a case or cases of that disease, not definitely traceable to an imported case.

"'Status epidemicus': plague, cholera, smallpox, yellow fever, typhus exanthemicus, trypanosomiasis, or other communicable diseases shall be considered to be epidemic in any port, place or defined locality, when after the first telegraphic report thereafter shall show the occurrence of an average daily number of three cases, exclusive of cases imported into or originating in a quarantine station.

"(2) To circulate weekly return of plague, cholera, small pox, yellow fever, typhus exanthemicus, trypanosomiasis, and also of plague in rodents, among the signatories; also telegraphic reports on the first occurrence of any of these diseased in a clean port or territory.

"(3) To issue a bill of health to all outgoing vessels proceeding to a port of another signatory. Such bill of health shall (inter alia) state the facts as to the existence and prevalence of quarantinable disease ir the port, place, or defined locality; and further, shall contain such informa tion as may be desired or deemed necessary by any signatory, to enable such signatory to estimate the sanitary risk from the arrival of the vessel in its (the signatory's) ports.

"(4) To report by telegram to the country concerned the departure of an infected or suspected ship (as defined in the Paris Convention) which may intend to proceed to any port in territories of another signatory, and to indorse the bill of health of the said infected or suspected ship with a

full account of measures taken to disinfect or otherwise deal with the said vessel.

"(5) To meet point (2) raised by Doctor Uthermann, the following procedure is suggested, viz: That in respect of any vessel leaving a plague-infected place, or carrying persons or suspected cargo from such a place (a place where there is plague in man or rodents), it is considered that no subsequent disinfection or fumigation should be imposed on the vessel at any port of call, if it can be shown (*a*) that the vessel has been properly treated for the destruction of rats and other vermin; (*b*) that approved measures of inspection or examination, and personal disinfection, and disinfection of effects have been carried out in respect of all persons on board such vessels; and (*c*) of specially objectionable classes of cargo (to be scheduled) have been rejected or properly disinfected before shipment. Provided further, that it is understood that no evidence of plague is discovered on board in man or rodent at any port of call.

"(6) In the opinion of this association it is most desirable that the recommendations of the International Bureau of Hygiene, which met at Paris in 1910, be given effect to, namely, that effective measures should be carried out to destroy rats on board vessels trading with plague infected countries independently of the existence of plague among such rats."

In connection with the foregoing it is of interest to observe that the experiences had with regard to the causation of beriberi in the Federated Malay States and the Philippine Islands, a portion of which were reported at the meeting held in Manila, in 1910, were confirmed by observers from practically all countries in which rice is used as the staple article of diet. The additional confirmatory evidence that polished rice is associated with the cause of beriberi, which has been accumulated in the Philippine Islands since the Congress met, makes it all the more imperative that some international action should be taken with the view to devising ways and means by which the ravages of this preventable disease may be effectively combated.

PRIMERA ASAMBLEA DE LOS MÉDICOS Y FARMACÉUTICOS DE LAS ISLAS FILIPINAS.

This newly organized association of Filipino physicians held its meetings in Manila from February 3 to 9. There were over 400 members in attendance. The Director of Health by special invitation read a paper entitled "Typhoid fever in the Philippine Islands from a sanitary standpoint."

In the future it is the intention of this Bureau to call an annual convention of its district health officers to meet in Manila at the same time that the Assembly meets. This will give them an opportunity to take advantage of both meetings at a minimum expense and no doubt will have the effect of increasing the attendance.

MARITIME QUARANTINE.

While the control of the maritime quarantine at the ports of entry to the Philippine Islands is conducted by the United States Public Health and Marine-Hospital Service, and therefore this Bureau is not directly concerned, yet, the dangerous, communicable diseases which were encountered on board vessels are of considerable interest to the Philippines and it was thought it might be of interest to record the following:

April 7, steamer *Loongsang* arrived in Manila from Hongkong and reported that a death had occurred in a Chinese member of the crew. Upon autopsy at the San Lazaro Morgue it was found that the cause of death was pneumonic plague.

April 6, a death was reported on the steamer *Zafiro*, after this vessel had been in port over twenty-four hours. Investigation showed that the victim on the night preceding his death was apparently in good health, but he was found dead the next morning at 6 o'clock. The autopsy showed that death was due to pneumonic plague.

A similar case was detected on a vessel arriving at Cebu during November.

In view of the developments with regard to cholera carriers in recent years it was thought advisable to examine steerage passengers from China and Japan to ascertain whether any of them were cholera infected. On June 30 a Chinaman from Hongkong was undergoing quarantine at the Mariveles quarantine station and upon examination was found to harbor virulent cholera organisms. Apparently the man was in good health.

SANITARY INSPECTORS.

Due to the fact that no epidemic disease has made its appearance in Manila during the year, it has been possible for the inspection force to devote more time to routine work, consisting of house inspections, the correction of insanitary conditions, and the enforcement of the Manila ordinances relative to public health matters. At the same time certain of the inspectors have been specializing along particular lines. For instance: There is an assistant sanitary inspector over each group of men composing the mosquito-exterminating gang, with an American sanitary inspector having supervision over the entire work. Numerous assistant sanitary inspectors have been detailed with the disinfecting squad for the purpose of becoming thoroughly familiar with practical disinfection and disinfectants. During the month of June, 25 assistant sanitary inspectors have been

especially engaged in the trapping of rats, in addition to making their regular house inspections. An American sanitary inspector has been detailed with the Board of Food and Drug Inspection, and devotes all his time to matters relating to the Food and Drugs Act. From time to time assistant sanitary inspectors have been detailed in the provinces to carry on the work of vaccination in places where the province and municipalities were too poor to employ local vaccinators. In this way the Island of Masbate was vaccinated during the year, also the Island of Busuanga. Vaccination was also performed in some of the municipalities of Bataan and Rizal Provinces.

For more than a year a senior assistant sanitary inspector of the Bureau of Health acted as president of the municipal board of health for Mariquina, at which time under his direction, and by assistant sanitary inspectors of the service, the entire population of the Mariquina Valley was vaccinated, effectively stamping out a small outbreak of smallpox appearing in that valley. The services of the senior assistant sanitary inspector mentioned above being needed by the Bureau of Health, he was withdrawn during the latter part of the year.

An American assistant sanitary inspector and two Filipino assistant sanitary inspectors were detailed for duty in the city of Baguio. Six assistant sanitary inspectors were detailed to Antipolo during the fiesta to supervise the sanitation of the place under the district health officer. A sanitary inspector was detailed at Iloilo for a short period to give instructions to the mosquito-exterminating gang employed by the municipality of Iloilo. A sanitary inspector and assistant sanitary inspector were detailed to the Culion leper colony to take charge of the leper sanitary inspectors, who are employed with same duties in the leper colony as an assistant sanitary inspector in the regular service of the Bureau of Health. During the small outbreak of cholera which occurred in Union Province assistant sanitary inspectors were detailed to work under the district health officer and the results obtained were prompt and satisfactory.

During the year there has been held a weekly inspection of each health station, including the personnel, at which time the Filipino inspectors are quizzed on the subjects pertaining to their work, such as the Manila ordinances, regulations of the Bureau of Health, and general subjects, such as disinfection, rat catching, water analysis, etc., and after each quiz a lesson is assigned for the coming week.

The Bureau is at present compiling a book to be known as

a Manual or Handbook for Assistant Sanitary Inspectors of Bureau of Health, which will be in a way a primer of hygi and sanitation but will probably be somewhat more technical th a similar book intended for the instruction of scholars in the public schools, and will in addition mention all of the ordinances and regulations with which the assistant sanitary inspectors have to be familiar.

The standard of requirements for admission to the service has been increased, applicants being marked according to their ability to read, write, and speak English or Spanish, their general appearance as to neatness and intelligence, their experience in health work, and their experience in other lines of work, in addition to passing a thorough physical examination. As is the experience with other Bureaus, there are now in the employ of the Bureau several assistant sanitary inspectors suffering with tuberculosis; and while heretofore there has been no physical examination of applicants there is always the chance that they may have contracted the disease in line of duty, and the Bureau hesitates to discharge these men, though they may not be capable of performing a full day's work. When the Manual is ready no assistant sanitary inspector will receive promotion until he is thoroughly familiar with its contents.

HOSPITALS AMONG THE WILD TRIBES.

The influence which the extension of medical and surgical relief and the establishment of modern hospitals has had in bringing the wild man to the ways of civilization can probably never be accurately estimated. It can scarcely be successfully gainsaid however, that the policy of winning the wild man through peaceful means had its most powerful weapon in the feeling of gratitude brought about by the ministrations of the doctor. The progress along these lines has been phenomenal. Where, a few years ago, wild, head-hunting savages, roamed through the hills at will and indulged in their murderous practices on every hand, there now exist modern hospitals where their ailments are treated, and the doctor and nurse go about the country in security, ministering to their physical ills. The latest of these hospitals was completed and opened at Bontoc for the reception of patients during the early months of the present calendar year. The hospital is a modern, brick structure, of thirty beds capacity, with ample facilities for the treatment of out-patients, and with room for housing a portion of the personnel. Photographs of the buildings will be found in the appendix to the report.

In addition to the foregoing, dispensaries with a few beds each, where emergency cases can be treated, have been opened at Quiangan, Cervantes, Tagudin, Banaue, and Tuac. It is gratifying to report that all of these institutions are largely patronized, and are becoming well known throughout the length and breadth of the Mountain Province.

Salvarsan has been successfully used during the year, in the treatment of a disfiguring skin disease known as yaws, and the use of this drug has been largely responsible for making hosts of friends.

In Agusan a temporary hospital at Butuan was opened and has rendered considerable aid to the people of that district. Owing to the restricted ground area which is available near the present hospital, it was decided not to build an addition to the same, as had been contemplated. It is now proposed to select a larger site, in a better location, and to begin the construction of a new hospital as soon as the necessary funds are available. In the meantime, the old hospital will be continued in service.

A small hospital and out-patient service is maintained at Bayombong, which serves, principally, the needs of the Christians there. The district health officer, however, has made a number of trips among the Ilongots, and has extended to them considerable medical relief.

SANITATION AMONG THE WILD TRIBES.

Sanitation among the wild tribes has also made most noteworthy progress. In many of the towns which are jointly occupied by Filipinos and non-Christians, much better sanitary conditions prevail than is the case in the average Christian town in the Philippines. In towns like Bontoc and Cervantes, for instance, the pail system is used, the daily collection of garbage is in effect, streets are regularly swept, modern market buildings have been provided, and yards have a neat tidy appearance.

Largely through the improved keeping qualities of the vaccine virus which is at present being used, but more especially due to the friendly relationships which exist between the wild tribes and the Government officials, it has been possible this year, to make considerable progress in vaccinating sections that were heretofore regarded as unfriendly. The records show that no less than 6,027 persons were vaccinated against smallpox during the year, and a number of outbreaks of smallpox were quickly controlled by the vaccination which had been done.

DEATH RATES AND APPROPRIATIONS.

Many facts brought out in this report furnish ample evidence to support the assertion that, with the expenditure of definite sums of money, proportionate decreases in the death rate can be brought about. In other words, sanitation is rapidly taking rank with the scientific professions like engineering, and reasonably accurate forecasts can be made with regard to the state of public health, provided definite sums of money are available and sanitary recommendations are intelligently applied. For instance, it can now be stated with reasonable certainty that any community in the Philippine Islands which has been using a polluted surface water, can have its death rate reduced from 10 to 50 per cent for each thousand inhabitants by making good artesian water available and having it used by every resident of such a community. Again, it can be stated that in any community which has been properly vaccinated, at worst, only a few deaths from smallpox can occur, and it can be stated with equal certainty that in a community where persons are not vaccinated and smallpox makes its appearance among them, a mortality of from 25 to 50 per cent will result among the persons who are stricken with the disease.

STERILIZATION OF WATER BY THE ULTRA-VIOLET RAYS.

The Governor-General has authorized the expenditure of ₱4,500 from the sewer and waterworks bond issue, as a fund for the purchase of an experimental sterilizing plant to determine the effect of the ultra-violet rays upon bacteria, amœbæ, and other germs contained in the Manila drinking water.

The small experimental laboratory plant has proved very satisfactory, but before adopting this system it is believed to be advisable to test it upon a larger scale, and it was with this end in view that the present course was decided upon.

It will perhaps be remembered that in previous reports it has been pointed out that all filters which have been tried up to the present time have been unsuccessful in preventing the passage of amœbæ, and, in view of the fact that all surface waters of the Philippine Islands, unless they are either strongly chemical or thermal, contain amœbæ, and since it has not yet been definitely ascertained whether these amœbæ are pathogenic or not, it will be apparent that none of these filters could be recommended for the Manila water supply. The preliminary

tests made with the ultra-violet ray show that it destroys not only the bacteria in the Manila water but the amœbæ as well, and gives promise that a satisfactory method of sterilizing water on a large scale has at last been found.

CEMETERIES IN MANILA.

In order to discourage the opening of additional cemeteries in Manila and to reduce the number now in use a committee composed of the superintendent of sanitation and transportation, the city engineer, and the Assistant Director of Health, was appointed to study this question and to make a recommendation with regard thereto. The committee decided that it would be desirable both from the sanitary and the esthetic standpoint to close, after a certain period, all of the cemeteries within the boundaries of the city of Manila and to use as burial grounds only the Cemeterio del Norte and another cemetery to be established in the southern portion of the city. The Cemeterio del Norte covers a very large area, is beautifully kept, and is quite large enough to accommodate all the burials in the city of Manila for some time to come, but due to the fact that those living in the southern portion of the city would be inconvenienced by having to travel a great distance to bury their dead, it was deemed desirable and necessary that a second cemetery be established in the southern part of the city. The Municipal Board has approved the recommendations of the committee and as soon as this second cemetery is ready for burials all other cemeteries within the boundaries of the city of Manila will be closed.

PROGRESS IN THE PROVINCES.

One of the most gratifying results attained by the Bureau during the year was the large amount of progress in sanitary work which has been made in the provinces of the Philippines. Heretofore, much of the effort of the Bureau has necessarily been directed toward improving conditions in Manila. It was obvious that, until Manila, which is the largest and most important distributing center of the Philippines, could be freed from the dangerous, communicable diseases, there would be small use in attempting much work outside of Manila. A few years ago, however, it was possible to concentrate the efforts of the Bureau upon the improvement of sanitation in the provinces, and the campaigns of education which have been carried on have been remarkably successful. In many places, where heretofore only opposition or complete apathy met the efforts of the sanitarian, a complete change of attitude has taken place, and sanitary measures which were spurned heretofore, are, in

many instances, now welcomed. The success of this improvement can be largely attributed to the coöperative work among the different Bureaus of the Government. The Bureau of Education, through its efforts in the schools, the Executive Bureau, and the Bureau of Public Works, in promoting work in connection with the installation of artesian wells, the building of new markets, drainage systems, and water supplies, have been largely instrumental in bringing about the friendly and helpful attitude which this Bureau has been so earnestly striving for. On account of the large amount of medical relief now extended to the masses by the Bureau of Health, they are coming to regard it as their friend instead of an agency of the Government meant to interfere with their personal liberties.

AMBULANCE SERVICE.

The electric ambulance service for the Philippine General Hospital compares favorably with that of the larger cities of the world. These ambulances are used mostly in doing work connected with the hospital but, on account of the lack of ambulances in Manila, they have often been used for the use of other patients when they could be spared. Additional motor ambulances, for dangerous, comunicable diseases, have been ordered, and it is hoped they will soon be in service.

THE BAGUIO SEASON.

The custom of transferring the seat of Government from Manila to Baguio has now been firmly established, and practically all of the Bureaus had their headquarters there during the period from the latter part of February until the early weeks of June. Owing to the energetic efforts of the director of athletics, practically all of the employees who were stationed there this year took part in some form of outdoor physical exercise, and there is every reason to believe that the physical condition of the great majority was considerably improved thereby. The Bureau of Health took advantage of the opportunity offered by so many employees being stationed in Baguio, to give a number of lectures on popular health subjects. During the early weeks at Baguio, considerable distrust in the climate was felt because of the presence of bacillary dysentery, but, when the specific cause became definitely known, and when it was learned that the disease was no more common at Baguio than in other parts of the Islands confidence was largely restored. A detailed report of the dysentery at Baguio will be found in another portion of the report.

TENEMENTS AND LODGING HOUSES.

The requirement that lodging houses should have a license showing the number of persons authorized to be harbored in the house, and that this license should be hung up in a conspicuous place, is still being enforced, and is gradually bringing about a relief from the overcrowding which was so prevalent a few years ago. Tenement houses are also required to have a caretaker, and through him, it has been found in actual practice to be a much more simple matter to enforce sanitary regulations, as, with a person in charge, there is someone to hold responsible when sanitary regulations are being violated.

COURT DECISIONS.

The status of sanitary authority in the city of Manila has been considerably disturbed by certain decisions of the courts, based on the validity of the Revised Ordinances which superseded and included the Sanitary Code of Manila.

The question involved is whether the publication in newspapers of the original ordinances upon which the Revised Ordinances are based is sufficient or should the Revised Ordinances have been published for the time and in the manner prescribed by law for original ordinances. The Municipal Board of the city of Manila holds that the Revised Ordinances were legally enacted while certain of the courts have decided that they were passed without due publication, hence are void. This and other questions affected by court decisions shake the stability of the working system of the Bureau, create doubt and distrust and seriously interfere with the enforcement of sanitary orders.

LIFE INSURANCE RATES.

There has been great activity along life insurance lines during the past year. One new local company has been formed, and several others have come to occupy the field from other countries. As the rates for policies are the same as in the United States, it goes to show that the actuaries are becoming more and more sanguine that the expectancy of life in the Philippines is much the same as in countries of the temperate zone. It also shows that men of money have sufficient confidence in the Government and in the sanitary administration of the Philippines to make large investments, and take their chances on the development of the country.

PUBLIC BATHHOUSES AND LAUNDRIES.

Public bathhouses and laundries are sanitary utilities, the need for which has been recognized by every official who has had charge of public health matters since the early period of American occupation, but, so far, neither of these projects has come to realization. In the sanitary barrios which have been so extensively constructed and with such favorable results in many portions of Manila, provision was made in each for the installation of a public bath, and a public laundry house, but, for lack of funds, it has been impossible to have them installed. It is hoped, however, that during the present year this project will come to realization.

THE MANILA MILK SUPPLY.

PASTEURIZATION NECESSARY.

During the past five years the Bureau of Health has made earnest efforts to improve the fresh milk which is delivered to consumers in the city of Manila. As long as rigid inspections are constantly made, and offenders against the regulations frequently brought before the court, there is considerable improvement in the milk supply, but even with this extraordinary amount of supervision the milk cannot be regarded as satisfactory. Milk obtained from cows kept under sanitary conditions, and sold in a cleanly manner within a reasonable time, contains a minimum of 35,000 bacteria per cubic centimeter. In accordance with the conclusions of the New York Milk Committee the minimum number of bacteria a safe milk should have is 10,000. In view of the fact that under the best conditions the Manila milk exceeds the safe margin by 25,000, and since the ordinary milk frequently contains as many as 60,000,000 bacteria per cubic centimeter, and nearly always has pathogenic organisms as well, it is evident that the plan at present being followed should be substituted by another which will yield better results. With this end in view, at the close of the fiscal year negotiations were under way with the Society for the protection of Infants (Gota de Leche) for the use of their sterilizing plant, and if satisfactory arrangements with regard thereto can be made, it is proposed to recommend an ordinance which will make it compulsory, before milk can be sold or offered for sale in the city of Manila, to have it pasteurized under the auspices of the Bureau of Health. If regulations are then enforced which will

compel its sale within a reasonable number of hours after Pasteurization has taken place, it is thought that a great improvement can be brought about in the milk. In view of the fact that many of the samples contain pathogenic bacteria in large numbers, there can be small doubt that the Manila milk is one of the factors in maintaining a high morbidity and mortality. Pasteurization will also afford an opportunity for detecting with greater frequency the common adulterants like coconut oil, rice flour and other substances which are so frequently added to Manila milk.

INCREASED USE OF IMPORTED MILK.

Probably one of the most satisfactory developments in connection with imported milks is the fact that a whole milk of excellent quality can now be purchased throughout the Philippines at a rate which compares favorably with fresh milk of an equal quality sold in the United States. Since the passage of the Food and Drugs Act there has been steady improvement in the quality of imported milk and the method of its preparation, so that it is becoming difficult to distinguish the difference between that and good fresh milk. On account of the fact that the milk can be purchased in sealed containers of a size that is suitable for use at a given time, and since it keeps for practically an indefinite period, such milk furnishes a most economical food. The steady increase in the use of imported milks is shown by the following table furnished by the Insular Collector of Customs:

Importations of milk.

Years.	Condensed.		Fresh.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Gallons.*	
1903	3,070,928	$247,366		
1904	3,233,062	251,261	8,804	$2,494
1905	3,018,376	233,667	8,537	3,778
1906	3,776,761	284,496	34,879	11,428
1907	3,646,264	289,789	69,080	27,435
1908	4,147,412	349,307	81,669	36,627
1909	4,752,733	406,607	118,397	47,223
1910	6,371,129	475,882	149,656	62,814
1911	9,507,983	623,541	145,922	66,581
1912	11,411,590	765,548	267,962	120,014

GOATS AS A SOURCE OF MILK SUPPLY FOR THE PROVINCES.

It has long been the endeavor of the Bureau of Health to introduce throughout the Philippine Islands the use of a satisfactory goat milk. To this end experiments have been conducted by the Bureau of Agriculture. One of the difficulties found in the way was the fact that the native goat gives a very small

quantity of milk, so that it would be commercially impracticable to use it, and the better goat-milk producers, like the Malta goats, do not flourish in this climate. In view of the foregoing, efforts have been made by crossing the native goat with the Malta goat, to produce a breed which would produce an increase in the quantity of milk and at the same time would thrive in this climate. These efforts have been only partially successful, and experiments are still under way. If this plan should eventually prove successful, it is believed that a milk supply could be made available for the use of the poorer people which it would be within their ability to pay for, and which would at the same time, furnish a satisfactory food which could scarcely help but have an important effect in reducing the infant mortality.

DEATH OF DOCTOR FREER.

Probably no man ever lived, himself not a health officer, who was more intimately connected with public health work than the late Doctor Freer. He was a member of the old Board of Health of the Philippine Islands until its reorganization as the Bureau of Health under the terms of Act 1407. His official position brought him in constant contact with the public health officials, and with public health problems. Sanitary science has been enriched by the labors of Doctor Freer, and will, in common, with all other branches of science in the Philippine Islands suffer because of his death.

The following obituary notice is taken from the Bulletin of the Manila Medical Society:

PAUL CASPAR FREER.

Born March 27, 1862, Died April 17, 1912.

PHYSICIAN, SCIENTIST, SCHOLAR.

Paul Freer was born in Chicago, on March 27, 1862. He received his M. D. degree from Rush Medical College in 1883 and the degree of Ph. D. from the University of Munich in 1887. During 1887 he was assistant in Chemistry in Owens College, England, and assistant in Tufts Medical College, Boston, 1888. He was called to the University of Michigan in the later part of 1888 as instructor in chemistry, was promoted to lecturer in 1889 and to professor of chemistry in 1890 and continued in this position until his services were secured for the Government of the Philippine Islands in 1901. He organized the Bureau of Government Laboratories at Manila in 1901 and was an active member of the Board of Health from 1901 to 1905.

In 1905 the Bureau of Government Laboratories was converted into the Bureau of Science and Freer was director of the bureau until his death. He was one of the organizers and was Dean of the Philippine Medical School which later became the College of Medicine and Surgery of the University of the Philippines.

He was organizer and editor of the "Philippine Journal of Science" and was a member of a long list of local, national and international societies and associations of learning.

His publications, which were numerous, will be outlined in a subsequent paper. They were contributions of a very high order of merit and covered a wide range of subjects. Chief among the subjects investigated was the action of sodium on keytones and aldehydes; closed carbon chains; phenyl hydrozones; tetrinic acid; esterification of halogen substituted fatty acid; formamid; organic peroxides and their germicidal action; reduction of nitric acid; tetramethylen; gutta percha; Philippine gums and resins; and tropical sunlight. His textbook of chemistry, although over ten years old, was of such a high order of merit that it still is used as a standard reference book by many students of the subject.

The brief outline of the subjects investigated, each of which represents a careful and exhaustive research and a definite contribution to the world's knowledge indicates love of research and thoroughness, two of the strongest points in the character of this distinguished investigator. His work on tropical sunlight, which had occupied much of his time during the last five years and much of which was unpublished at the time of his death, constitutes one of the most important researches of recent years and could he have been spared but a short time longer should have won him the "Nobel Prize."

Like most other truly great men Paul Freer's most useful work is not to be found in his publications but in his influence upon other men. No other man in the Philippine Islands has conferred so much honor on the medical profession. This "many gifted" man of science was the teacher, friend, and advisor of every investigator of the country whether the subject of his work was medical, chemical, botanical, or what not. He constantly gave much of his time to encouraging and helping younger men with their problems and many of the men who have won distinction in various fields of research in this country freely accord much of the credit to the help and advice of Dr. Freer.

We, his friends, colleagues and pupils are panic stricken at his absence and men of contemporary science the world over will mourn with us in the loss of one of the great men of the day.

LABORATORY DIAGNOSIS.

Eternal vigilance is the price of success in public health work. The early recognition of the presence of disease in a community may prevent an epidemic, and save thousands of lives, to say nothing of the outlay of money and detriment to business. In order that the facilities of the Bureau of Science might be made available in the remote places of the Philippines, and to secure uniformity in the method of submitting specimens, the following instructions have been prepared by the Bureau of Science and put in operation by this Bureau:

BLOOD.

This should be smeared evenly on a glass slide and allowed to dry thoroughly. Several slides should always be sent, and

they should be separated from each other by a small piece of match stick at each end, the smeared surface in, and all the slides held together by a rubber band. They should then be well protected by cotton to prevent breaking and packed in a small box. Blood smears if thoroughly dry before packing should reach the Bureau in good condition.

SPUTUM.

Sputum for examination for tubercle bacillus will keep indefinitely without any preservative. It should be sent in a small bottle, preferably with a wide mouth, wrapped in cotton and put into a small box, or section of bamboo.

FECES.

Feces, if to be examined for the eggs of parasitic worms, should have added 4 per cent by volume of formaline.

Feces, if to be examined for the bacillus of typhoid fever or bacillary dysentery, should not have any preservative added, but should be put in a bottle, packed as above, and transmitted without delay.

Feces, if to be examined for cholera, a culture should be sent on agar, as described in the circular of directions relative to the use of agar culture tubes.

URINE.

A few drops of chloroform will preserve urine for chemical analysis only, but it makes the sediment unfit for microscopical examination. A saturated solution of boric acid may be used as a preservative or 0.3 to 0.4 gram of salicylic acid may be added to every 100 cubic centimeters of urine. Always state kind of preservative used.

INSECTS.

Chitinous insects such as fleas, ticks, mites, lice, and bedbugs, should be placed in 70 per cent alcohol in a small bottle and labeled with the locality, host, and date of collection.

Mosquitos and flies must be handled very carefully to avoid mutilating. Small pieces of cotton must be put at the bottom of a test tube or small bottle and the insect then dropped in and a small piece of cotton pushed down over it so that there will be a layer of cotton between or separating each insect. A few drops of chloroform may be put in as a preservative or a small piece of camphor and the bottle or test tube tightly stoppered.

BRAINS OF DOGS SUSPECTED OF HAVING RABIES.

When possible the entire head of the dog should be sent packed in ice. This is usually impracticable so the brain may be placed in glycerine in a bottle or jar and transmitted as soon as possible.

NOTE.—All glass bottles or test tubes must be carefully packed to avoid breaking. They must be well protected by cotton. A section of bamboo makes an excellent box in which to pack glass.

It is important to label all specimens with date, name of sender, kind of material, from what obtained, locality, and a specific statement as to what is to be looked for.

PRISON AND JAIL SANITATION.

In order to establish a system of sanitation for prisons and jails, a circular of instructions previously approved by the Director of Prisons was mailed to all district health officers who under Act 1487 are charged with the responsibility of the prison sanitation. The requirements of this circular being applicable to all civil prisons and jails in the Philippine Islands wherever located, the system of sanitation is made uniform.

Attention is invited to the following rules for the regulation of sanitary conditions in the provincial jails. District health officers will see that copies of these regulations are placed in each provincial jail and that they are complied with at all times; reports will be made to this office of all failures to conform to these rules:

On admission to the jail all prisoners shall be given a bath and change of clothing and those having any skin diseases or eruption or other evidence of illness shall report at once to the medical officer in attendance for examination and disposition.

All prisoners shall be required to bathe at least three times a week and shall not be allowed to drink any other than the drinking water supplied them at the jail. This water is to be kept in the closed tanks constructed for the purpose and to be drawn off only from the faucet.

Prisoners shall be allowed one-half hour to consume their meals, which must be taken at the place designated. No food is to be allowed them or in their possession at other times.

All prisoners shall be required to exercise daily unless excused by the surgeon.

Sick prisoners shall be reported to the surgeon at once.

All prisoners suffering from contagious or infectious diseases will be properly isolated, and after their removal the place of confinement shall be disinfected.

Each room shall be provided with spittoons and prisoners shall be prohibited from spitting on the floor or grounds. These spittoons shall be cleaned twice daily and disinfected at least once a week.

Dry-earth closets shall be provided with fly-proof screens for use during the day and one shall be installed in each room occupied by prisoners for use during the night; these closets shall be cleaned at least twice daily, and contents deposited in a pit at least four feet deep and covered with a plentiful supply of earth.

Buildings and grounds shall be cleaned daily, and after each meal, all garbage shall be thrown into the sea, burned, or buried in a pit at least 4 feet deep and covered with earth.

Food at all times shall be protected from fly infection. All dishes and utensils shall be cleaned immediately after use and kept protected from fly infection.

In the case of prisoners having, or suspected of having, tuberculosis a sample of sputum shall be sent to the Bureau of Health for examination.

THE BUREAU OF HEALTH EXPOSITION EXHIBIT.

The Bureau of Health was represented by a sanitary exhibit located in the center of the Insular Building of the Exposition covering an area 10 meters long and 7 meters wide, and an emergency hospital consisting of two large hospital tents located in the Carnival grounds near gate No. 2.

In the exhibit were displayed a modern bathroom, models of sanitary houses, municipal water filter, artesian wells, and a sanitary privy; also two relief maps in modeling clay of the barrio of Santa Monica showing its condition before and after it was reconstructed in accordance with the plan prepared by the Bureau; a small ice machine; an incubator; rat traps, sanitary bottles and carriers for milk, tuba, etc., the various kinds of rice, cases containing stuffed specimens of local rats, jars containing flies and mosquitoes, and a small disinfecting pump; while demonstrations of infant feeding were given by a trained nurse.

On the walls were displayed charts showing the birth and death rate of Manila by years for the past ten years, cycles of the fly and mosquito development, and the diseases transmitted by them, the rat flea, rat guards for vessels, statistics of plague and cholera, deaths from beriberi, tuberculosis prevention, photographs of infants properly and improperly cared for, and of a number of cases of plastic surgery.

The emergency hospital was equipped with cots, regimental and detachment field chests of the United States Army Medical Department, white enamel instrument case, washstands, bowls, chairs, and a sterilizer and during the hours at night when the crowds were greatest an ambulance was stationed there to facilitate the transfer of any serious cases to the General Hospital.

The plumbing display consisted of a modern tiled bathroom

with enamel metal siding, bathtub, shower bath with curtain, frame and base to catch the water; low tank flush water-closet, with white enamel metal seat, washstand and foot bath, together with traps, drains, and other fittings for sinks and drains.

The sanitary houses were models constructed by the division of sanitary engineering and demonstrated the unit idea to be followed in tenement-house construction, each house being separated from the adjoining one by a party wall and having its own kitchen, water supply, water-closet, and drainage, with galvanized-iron roofs and gutters and free through ventilation from front to back of house, this being secured by large double opposing windows in front and back walls, as well as large openings in all cross sections of rooms to facilitate the free passage of air through all parts of the house. Each unit has its own back yard entirely fenced in by a closed type of fence, while the part devoted to the kitchen, etc., is a separate part of the house connected by a short passageway covered or uncovered. Where upper and lower floors are occupied by separate families, each floor is a complete unit, the upper one having its own stairway leading to the street; the lower floor, excepting the passageway, being raised about one meter from the street level, the most striking feature being the unusually large window and door openings in both the front and back of the house. The model of the nipa house constructed especially for tuberculous persons gives a much larger comparative area of window space than is customary and the front and back of the house is provided with a large covered porch connected with the house by a door and intended for use as sleeping quarters, they being located on opposite sides and near the corners of the house, thereby affording shelter in inclement weather.

The municipal water filter consists of a large rectangular shaped cement tank divided across by a wall making two spaces, one about five times the size of the other. Into the smaller space, which serves as a settling bed or basin, the water enters and the overflow passes through pipes into the larger and filtering tank, this being filled with filtering mixture composed of sand and gravel; after passing through this the water leaves the tank at the opposite end and is supplied for use. This filter is also divided lengthwise by a concrete wall which permits cleaning of one half while the other half is in service. The settling basin is also provided with large valves to facilitate cleaning.

The model of an artesian well consisted of a vertical section of soil from the surface down through several strata of rock, gravel and sand, the upper or clay strata representing the polluted part, next the rock strata which acts as a barrier against contamination of the lower sections from which the water is obtained. A small glass pipe representing the driven well extended from the surface down to the gravel strata and through this a stream of water was kept flowing by syphonage. The perspective being a hillside illustrated how contamination of surface water occurred by natural drainage at a distance from and at lower levels than habitations.

MODERN SANITARY BARRIOS.

The relief maps of Santa Monica presented very forcibly the former condition of this as well as that of many barrios with their irregular location of houses, no provision for the disposal of excreta, no drainage, with the resulting swampy and filthy condition of the lower sections, no market, and a sluggish estero serving no other purpose than the collection of filth. The model one showed a regular arrangement of streets and alleys with a corresponding regularity and uniformity in house location, a sanitary market, midden sheds or dry earth closets systematically and conveniently distributed, each street and alley provided with a drain on both sides into which every house is required to drain, a cement base being placed under the kitchen or back part of the house collecting the waste water and carrying it directly to the street drain thus avoiding the collection of stagnant water on the premises, the street drains emptying into deep drains which communicate directly with the esteros which in turn are washed daily with tidewater, and, when practicable, fireplugs are also used to flush out these drains. Public hydrants also being located on the side of the street where their waste water is conducted directly into the drain from a cement base.

HOUSEHOLD ICE MACHINE.

The ice machine shown is of French make and occupies a space of but 1½ meters long, 40 centimeters wide, and 1 meter high. It is intended for house use and its purpose in the Bureau is the preservation of vaccine virus at remote places in the provinces where vaccinating is being done and where ice or cold storage is not available. It is a vacuum machine,

the necessary lowering of the temperature being obtained by means of the extraction of heat and moisture by the use of sulphuric acid and an air pump.

RAT TRAPS.

The rat traps shown and adopted are of two kinds, one a cage constructed of bronze wire with entrance at one end and trap door in center partition and capable of holding a number of rats, the other, the wooden variety with a strong spring which upon being released by rat touching the bait strikes on the back of the neck, killing and holding it.

RICE SAMPLES.

The various grades of rice, both polished and unpolished (or milled and unmilled), were shown in bottles as well as the rice pericarp, and demonstrations were given in which the polished rice was shown to be the cause of beriberi, as proven by the results of an unpolished rice diet at the Leper colony at Culion, in jails, lighthouse stations, Government vessels and institutions, and among native troops of the United States Army, as reported by the Director of Health to the meeting of the Philippine Islands Medical Association, February 23, 1911, and in the reports of the investigations of Aron, Highet, Fraser, Stanton, Kilbourne, and DeHaan. The presence of four-tenths of 1 per cent or more phosphorus pentoxide is considered sufficient to class the rice as unpolished and acceptable.

The importance of this as a sanitary question is emphasized by the fact that in Manila alone during the year 1911 there occurred 1,500 deaths from beriberi which probably could have been prevented by the substitution of unpolished for polished rice.

PLAGUE RATS.

The case of stuffed rats contained specimens of the *Mus rattus* or black rat, *Mus norvegicus* or wharf or sewer rat, and the *Mus musculus* or house mouse, all found in the houses of Manila and capable of carrying plague, if exposed to the infection.

MOSQUITO SPECIMENS.

In specimen jars were displayed and undergoing development the larvæ, pupæ, and adult *Stegomyia persistans* or day mosquito; *Culex fatigans* or night mosquito; and the common house fly. The small disinfecting pump exhibited is used to spray rooms with a disinfectant solution from a bucket. This pump is small, simple, cheap, and effective, and, in addition to the purpose

designated, it may also serve as a small fire extinguisher, sprinkler, and spray pump for the application of whitewash.

SHIP RAT GUARDS.

The rat guards were displayed attached to a rope representing the guards en situ on a ship's line. These guards consist of a galvanized-iron disk not less than 3 feet in diameter to be attached at right angles to the line and held in place by four half tubes of the same material, two of which are attached to each side of the disk at its center and extending out about one foot. These tubes on closing clamp the line and are held in place by tying with a small line or rope yarn, this having been found to be an improvement over any fastenings of bolts or clamps owing to the constant losing of the latter. The disk is divided in half and at the outer edge of the two sections is held together loosely by a bolt, and to each one of these sections is attached the half of the tube on the outside, thus allowing the trap to be opened and closed *over* the rope instead of having to pass the rope through an opening, it further offering the advantage of ready adjustment to any size line; in case however the tubes cannot be closed sufficiently to clamp the line they should be wrapped or padded with burlap or rope yarn, one of the principal requisites being that no opening be left between the line and the guard. The guard is placed as near to the ship end of the line as possible, without damage to the guard, this to prevent rats from falling from the line to the water and swimming ashore, nor must they hang over a dock or shore. Every line from a ship to a dock or shore as well as all lines between ships and lighters must have a guard attached. These have been in use in Manila for the past four months and their initial cost is about ₱2.50 each. Ships making Manila a regular port of call provide their own guards made from blue prints furnished by the Quarantine Service, while others may obtain them from the custom-house. In addition to this precaution against the introduction of rats from plague-infected ports vessels are required to fend off at least 6 feet from a dock or pier and all gangways and chutes must be raised from sunset to sunrise, while lighters and cascoes must be removed from ship's side during these hours. Where the use of a rat guard is impracticable, as on lines running against the side of the ship or at too acute an angle to the ship, then tar must be applied daily to the line for a distance of not less than 6 feet from the ship. Ships may have one passenger gangway at night to the pier but it must be guarded by a watchman.

TUBERCULOSIS PREVENTION.

Tuberculosis prevention was shown by a series of comparative pictures with text:

ONE SIDE SHOWING:	THE OTHER:
1. The open and well-ventilated house with person sleeping on the covered porch.	1. A closed and poorly ventilated house, person sleeping inside on the floor with dirty clothes and cooking utensils drawing flies.
2. Cigar making in clean room with cigars screened, stationary washstand, good ventilation, high work tables and spittoons.	2. Low tables with girls seated on or near the floor, no spittoons, a small window affording but the poorest ventilation, and no screens.
3. Boys and girls playing lawn tennis and exercising in open air.	3. Children playing inside the house on dirty floor, no ventilation, dog eating food scattered on floor and flies abounding.
4. Eating meals on high table, clean and with knives and forks, food screened from flies, good ventilation.	4. Eating food with fingers on low table, no screening from flies, baby and dog playing together on dirty floor, and stable just outside with direct fly communication to food.

These illustrations were shown for the purpose of teaching:

1. Sleeping with the windows open or outside means clean air, pure blood and good health.	1. Closed windows mean dirty air, and p o i s o n e d blood. This means death.
2. Work and study in pure air make mind and body alert.	2. Dirty dusty hot rooms are killing. Destructive to health and efficiency.
3. Play and exercise in clean open air. Keep out of doors as much as possible.	3. Indoor play and playing in dusty places is not healthful play. Exercise in dirty air is dangerous.
4. Eat clean nourishing food, protected from flies and dust.	4. Dirty food kills thousands. Flies and dust contaminate food.

5. Don't spit in public places. "No spit, no tuberculosis." Don't swap gum, apples, etc. There is spit on used gum. Don't put pencils or money in the mouth. There is spit on pencils and filth on money. Don't eat candy, fruit, or pastry that has been exposed to flies or dust; there are all kinds of germs on such. Don't sneeze or cough in another's face; don't let another infect you in this way.

INFANT FEEDING.

A number of photographs were displayed illustrating the marvelous improvement in babies as soon as they were put on a scientific method of feeding.

The part of the exhibit that attracted much attention was

the demonstrations on infant feeding given by one of the Filipina trained nurses from the General Hospital. The points emphasized being cleanliness and caloric or scientific feeding as now taught and carried out in the General Hospital. The demonstration first showed the washing of the feeding bottles with clean cold water then with hot water and soap followed by placing in a clean pan and covering with clean cold water and boiling for twenty minutes. During this interval the nipples are to be cleaned by washing with clean cold salt water then place in a clean pan, cover with water and boil ten minutes, then place in clean cold water and cover with pan or cloth. The dishpan should be kept for this purpose only and the dish towels are to be washed in soap and water, rinsed in cold water and then boiled twenty minutes, rinsed twice in cold water and hung up to dry. Before handling any food for the baby the mother or nurse should carefully wash their hands and after nursing, the breast should be washed three times daily with soap and water and then rinsed with warm water.

For alkalinizing the milk a 40 per cent solution of citrate of sodium is used in preference to lime water. In the event of the baby failing to gain in weight the average 25 to 50 grams daily, then a small quantity of cream should be added, although this is seldom required. It is sometimes necessary to add 5 to 10 grams of lactose to each feeding, especially with babies that have been fed on condensed milk, although as a rule plain sterilized milk without additions or dilution is all that is required.

THE CARNIVAL HOSPITAL.

The emergency hospital treated an average of about 15 cases daily, both medical and surgical.

The Bureau was represented by Dr. G. I. Cullen with Medical Inspectors Zach Laughlin and C. E. Norris on duty at the hospital, while two American and five Filipino sanitary inspectors were also detailed.

EMBALMING.

Undertakers in the city of Manila are required to pass examinations before a board appointed by the Bureau of Health before they are permitted to engage in embalming. Embalming is being regarded with increasing favor by the Filipino people.

In order to provide for the temporary embalming of patients who die at places where there are no trained embalmers this office has issued the following circular of instructions.

As it occasionally becomes necessary to embalm a body in order that it may be transported in good condition, or for other

reasons, the following instructions are issued to medical officers of the Bureau of Health in order that they may be conversant with the best method of preservation in such cases.

The first method given is one which should give perfect results and requires to carry it out more careful and complicated work than the second method, as well as an embalming fluid which has a somewhat more complicated formula.

The first method is as follows:

Formula for solution.

Solution of formaldehyde, U. S. Pharmacopœia	cubic centimeters	140
Sodium borate, U. S. Pharmacopœia (borax)	grams	50
Phenolphthalein (8 per cent alcoholic solution)	cubic centimeters	55
(Dissolved in alcohol, U. S. Pharmacopœia with the aid of heat.)		
Water a sufficient quantity to make	cubic centimeters	1,000

Directions for making.—Dissolve the borax in boiling water (using about one-third of the final volume) and dilute the resulting solution with about an equal volume of cold water. Then add the required amount of solution of formaldehyde, United States Pharmacopœia, and the phenolphthalein solution. Dilute to the required volume by the addition of water and mix well. Keep in stoppered containers.

By the addition of the alkali (borax), bleaching of the tissues by the formaldehyde is prevented, and borax will not cause a deterioration of the embalming fluid if kept any length of time before using. The phenolphthalein is added to give the solution an attractive appearance.

The amount of fluid to be used in embalming should be 15 per cent of the body weight, distributed as follows:

Left femoral artery, 2 per cent injected toward the toes.
Right femoral artery, 2 per cent injected toward the toes.
Left brachial artery, 1 per cent injected toward the fingers.
Right brachial artery, 1 per cent injected toward the fingers.
One common carotid artery, 2 per cent injected toward the head.
Same common carotid artery, 7 per cent injected toward the body.

It is unnecessary to drain off the venous blood. The orifices of the body should be plugged with cotton saturated with the fluid and the skin well smeared with vaseline.

Second method.—Where it is not possible to do the embalming with as much thoroughness as given above, the sodium borate and phenolphthalein may be left out of the solution and simply a solution of formaldehyde used, namely, 140 cubic centimeters solution of formaldehyde, United States Pharmacopœia, with water of sufficient quantity to make 1,000 cubic centimeters. Also, by injecting in the common carotid artery only, 2 per cent

of the fluid to go toward the head and the other 13 per cent toward the body fairly good results can be obtained. The orifices should be plugged as above and the body anointed with vaseline.

Method of injection.—Use about a 3-gallon bottle with two glass tubes, a long and a short one, passing through a rubber cork. The long glass tube passes to the bottom of the bottle and is connected to the canula which is inserted into the artery, by means of a rubber tube. The short tube passes but a short distance into the bottle, its lower opening being above the surface of the liquid. Its outer end is connected by a rubber tube to a bicycle pump. The pressure required for injection is about equal to the normal blood pressure.

The artery is slit or cut and the canula is inserted toward the direction in which the fluid is to flow and the ends of the canula held fast within the lumen of the vessel by a ligature. Upon withdrawal of the canula the same ligature is tightened and tied, thus preventing the fluid injected from escaping. The canula is then inserted in the same artery in the opposite direction and the same process repeated. Even though an artery is injected in but one direction both ends of the slit or severed artery must be tied. When apparatus such as is described above is not available, any syringe having a suitable needle or nozzle and suitable capacity may be used.

BUSINESS AND SANITATION.

As we gain in experience in the Philippine Islands, it becomes more and more apparent that there is scarcely a commercial venture of any kind the success of which is not intimately associated with good sanitation. It also augurs well for business interests that this is being more and more recognized. Large sugar estates, which have high malaria rates among their laborers, can scarcely hope to compete successfully with estates that have healthy workmen. Owing to the easy manner in which the native in the Tropics can gain a livelihood, it requires more than the ordinary amount of inducement to obtain labor from him, and when he learns that there is considerable risk of losing his life when working in sections in which the malaria death rate is high, it is only with greater expense and difficulty that he can be induced to work under those conditions.

Shipowners are rapidly coming to the point where fumigation of their vessels for the destruction of rats and vermin is requested, whereas, only a short time ago it was the custom to resist sanitary measures of this kind in every way. In this case, however, it soon became apparent to business men that several hundred healthy rats on board ship require a considerable

amount of food daily, and when it is considered that on shipboard all wastes are immediately thrown overboard, and that the rats therefore live almost entirely on new stores, it is apparent that the food which they eat is a very large item of expense.

The railroad companies in the southern islands have long since recognized that prosperity is intimately associated with the absence of epidemics, and therefore, they give all possible aid to the health authorities in stamping out dangerous, communicable disease. The Government itself is giving excellent object lessons of what may be accomplished in some branches of sanitation: for instance, the Iwahig penal colony, located on a plot of ground which had an evil reputation for pernicious malarial fever and was the financial ruin of several private companies that tried to raise sugar there on a large scale, was placed in good sanitary condition and the malaria reduced to a negligible minimum, and life and health are practically as safe there as in any other part of the Philippines.

One of the most satisfactory things in this connection is the fact that sanitary work of this kind has been carried out at a cost which would not be prohibitive from a commercial standpoint.

In other words, wherever sanitation has been introduced, it has ever been the policy of this Bureau to carry it out within a cost which would be commercially profitable.

THE NEW LAW WITH REGARD TO THE INSANE.

It is gratifying to report that the recommendation which has been so frequently repeated in the annual reports of the Bureau of Health for a proper law for the commitment and control of the insane, has at last borne fruit. The last Legislature passed Act 2122, entitled "An Act providing for the confinement of insane persons in Government hospitals or other institutions for the insane, and for the appointment of a board of physicians to inquire into the mental condition of persons alleged to be insane, when the evidence presented is not satisfactory to the court, or when there exists a reasonable doubt as to the condition of any patient confined in a hospital for the insane."

There now exists the necessary machinery for committing the insane in a manner that is more satisfactory from a legal standpoint. The difficulty encountered now, is the fact that funds are lacking for providing for those insane that require institutional care. According to the returns there are 3,543 insane persons in the Philippine Islands. Of these 360 are

confined in institutions. It is estimated that at least 2,000 more should have institutional care. In order to bring this about, an appropriation of ₱640,000 would be necessary for the erection of buildings and ₱500,000 for operation.

In order to place the insane law into effect, the following regulations have been prepared:-

REGULATION 1. District health officers, medical inspectors, and other employees concerned are expected to become thoroughly conversant with the provisions of Act 2122 upon which these regulations are based, and ignorance of the provisions thereof will not be accepted as an excuse for any action taken under these regulations alone.

BUILDINGS AND CARE OF INSANE.

REGULATION 2. District health officers in the provinces, and medical inspectors in the city of Manila, shall, immediately upon receipt of these regulations inspect within their districts, all institutions or places wherein insane persons are confined, quartered or maintained, and shall submit immediately to the Director of Health a report, showing:

(*a*) The sanitary condition of such institution or place,

(*b*) The number of insane confined or maintained therein,

(*c*) The provisions made for the sanitary maintenance of such insane in said institution or place—toilets, bathing facilities, etc.

(*d*) The clothing provided, and the quantity and quality of food served to all insane persons confined or maintained therein.

(*e*) The methods used to prevent the insane, or violently insane, from injuring themselves, and of escaping and injuring other insane or the public; pointing out defects with regard to: (1) location, construction, and maintenance of buildings with reference to sanitation; (2) insanitary and unsuitable conditions with regard to the care, maintenance or confinement of insane persons therein.

REGULATION 3. The inspection and report provided for in Regulation 2 shall hereafter be made semiannually, in June and December of each year, the report for each semiannual inspection to be in the hands of the Director of Health by not later than July 5 and January 5 for the half-year immediately preceding.

REGULATION 4. No buildings in which insane persons are confined, or are to be confined, shall be erected, changed or repaired until the plans therefor shall have been approved by the Director of Health.

RATES FOR THE MAINTENANCE OF INSANE AT SAN LAZARO INSANE HOSPITAL AT MANILA.

REGULATION 5. The terms upon which insane or apparently insane persons shall be admitted to Government institutions are as follows:

For maintenance in ward, ₱25 per month.

For maintenance in private room, ₱2 per day and upward, according to character of room.

COMMITMENT OF INSANE IN THE PROVINCES.

REGULATION 6. Insane persons, with their consent, or with the consent of their guardians, may be admitted to an institution for the insane without

an order of the court. In such cases, due application, with the necessary consents attached, will be forwarded to the Director of Health by the district health officer, who will certify whether or not the responsible persons are able to pay the cost of transporting the patient to the institution and of his maintenance therein. If the responsible persons are unable to pay, such cost will be charged or disposed of as provided for in Regulation 11.

No such cases will be sent to an institution for the insane without the approval of the Director of Health first had.

REGULATION 7. In all cases where it is for the public welfare or for the welfare of any person who is insane, and when such persons, or the person having charge of the patient, is opposed to his being taken to a hospital or other place for the insane, the district health officer shall, after satisfying himself as to the facts, forward a full statement of the necessities of the case to the Director of Health. If the latter shall approve, he will recommend an institution or place for the confinement of the insane person, and the district health officer shall then request the provincial fiscal to present the proper petition to the Court of First Instance alleging that the person is insane and praying that such person be committed to the institution designated by the Director of Health.

In cases of emergency, or, if the court is not in session, the district health officer shall so inform the Director of Health and state the necessity which he believes justifies immediate action, at the same time recommending a place where such insane persons should, temporarily, be confined. Should the confinement be ordered by the Director of Health, the district health officer will immediately request the provincial fiscal to make the necessary petition to the court when it shall next convene, and in the meantime, he shall forward to the Director of Health the full statement of the necessities and facts of the case, called for in the first paragraph of this regulation.

REGULATION 8. The district health officer shall make inquiry, and if it be within his knowledge that the confinement of an insane person involves the care of property or money, he shall so notify the provincial fiscal immediately in writing.

COMMITMENT OF INSANE IN MANILA.

REGULATION 9. All insane persons or alleged insane persons who are reported to medical inspectors in charge of city districts shall be immediately examined by them, and if they have reason to believe that such persons are actually insane, they shall call in consultation a medical officer of the Bureau of Health, and if they jointly believe such person to be insane and one who should be restrained, they shall, with the consent of such insane person, request the Police Department to transfer him to the Hospicio de San José and immediately report the facts in writing to the Director of Health.

If cases are reported after office hours, or if a medical inspector is absent from his station, they shall be immediately reported to Station J, Central Office, and the medical officer on duty there will, after examination, if he believes such person to be insane and that restraint is necessary, request the police department to send such insane person to the Hospicio de San José, and as soon as practicable thereafter, and invariably within a period of twenty-four hours, shall call in consultation a medical officer of the Bureau of Health, and they shall render the report provided for above.

REGULATION 10. In all cases where it is for the public welfare, or for

the welfare of any person who is insane, and when such person, or the person having charge of the patient, is opposed to his being taken to a hospital or other place for the insane, the medical inspector shall, in such cases, request another medical officer of the Bureau of Health to examine such person with him, and if they jointly believe such persons to be insane, they shall immediately report the facts to the Assistant Director of Health, who will request the prosecuting attorney of the city of Manila to prepare a petition to the Court of First Instance, praying the court to commit such person to the Hospicio de San Jose, if the person is a bona fide resident of the city of Manila, or to the San Lazaro Hospital, if he is a resident of the provinces. If the court having jurisdiction is not in session, any two medical inspectors of the Bureau of Health are hereby authorized to request the commitment of such person to a police station, provided that such case may be suitably cared for at such a station, until the facts can be brought to the attention of the court. If such person cannot be suitably taken care of in a police station, this fact should be immediately reported to the Director of Health.

EXPENSE OF DELIVERING INSANE AT A DESIGNATED HOSPITAL.

REGULATION 11. The cost of transportation insane persons to an institution and for their maintenance therein, is provided for by law, as follows:

1. By the guardian from the estate of the insane person.

2. By the person whose duty it is under Title IV, Book I of the Civil Code (to be named).

3. If the above are unable to pay the expenses wholly or in part, by the municipality in which the patient is a bona-fide resident at the time of his confinement.

GENERAL.

REGULATION 12. In no case is any employee of the Bureau of Health authorized to incur expense in transporting or maintaining insane persons except upon an order of the Director of Health.

REGULATION 13. Any person in charge of any institution or place in which insane, or alleged insane, persons are confined, and any district health officer or medical inspector, who has any doubt as to whether any person confined in such institution or place is insane, shall immediately notify the Director of Health of the facts in the case.

REGULATION 14. Medical inspectors and district health officers, in their respective districts, shall examine insane persons confined in institutions other than the San Lazaro Hospital in Manila, at least once each month, and submit a report to the Director of Health as to whether or not, in their opinion, any of such persons, so confined, may be safely released. If any person is recommended for release, information should be furnished as to whether such person is under sentence.

REGULATION 15. All employees or other persons having knowledge of any facts involving in any way the improper detention, care, treatment, or confinement of insane or alleged insane persons, shall report such facts immediately to the Director of Health.

REGULATION 16. The attention of medical officers of the Bureau of Health is especially directed to the fact that the accommodations for the care of insane in the Philippine Islands are limited, and that for the present, only such cases should be recommended for admission to an insane hospital as may be violent or a serious menace to others, and for whom, in order to be reasonably safe, restraint under skilled control is urgently necessary.

FOOD CONTAINERS FOR THE TROPICS AND PROPER PACKING OF FOOD SUPPLIES.

On regular dates a board of survey is convened to condemn spoiled food supplies and other imported articles at the Philippine custom-house.

Importers of the Philippine Islands have in vain protested to the manufacturers and exporters of the United States against careless packing, and, in many cases, have been driven to foreign markets because the preparation for shipping is done with more care there than in the United States. It would seem that the exporters of the United States prepare a consignment for shipment to the Philippine Islands in exactly the same manner as they would to Mexico or to any State in the Union where there is only a continuous railway journey involved. This has led to great loss, vexatious delays, and in many cases spoiled food products.

Manufacturers and exporters of cereal products and other food preparations intended for tropical countries should improve the containers in which such goods are packed, if the trade therein with tropical countries is desired. The American exporter at present sends to tropical countries the same packages as are prepared for home consumption. The wrappers or containers are found to be unfit to meet the conditions to which they are subjected in the hot and humid countries of the Tropics.

Cereals or other food preparations, when inclosed in paper containers, are soon infested with destructive insects, which cause them to be unfit for use. Merchants who have attempted to carry such goods, delivered to them in paper or cardboard packages, after a trial gave it up, as the losses greatly exceeded the profits and further orders were withheld. The purchaser would also find that before a package could be used at his home the insects would work through the paper or cardboard covering and destroy much of his purchase or render it of no value.

The container for such products should be of tin, glass, or other vermin- and moisture-proof material when intended for the tropical trade, especially in the countries subject to great humidity. It is believed that cereal food preparations would have a much larger sale in tropical countries, if they were put upon the market properly prepared to withstand the condition to which they are subjected.

The attention of the Government is called to this fact in order that it may receive administrative attention, inasmuch as it concerns the health of the people and the financial interests of the importers as well.

CAMPAIGN AGAINST MOSQUITOES.

A few years ago, Manila was probably one of the worst mosquito afflicted cities in the world, yet, within comparatively a few months, and with an expenditure that is not excessive, the city was practically rid of mosquitoes which are troublesome to man. The kinds that particularly gave trouble in the city were the *Culex fatigans* and the *Stegomyia persistans.* At the time the campaign was begun, it was recognized that in order permanently to free the city from mosquitoes, draining and other engineering work to the extent of an expense of several million dollars would have to be done, nor has there transpired anything since to alter this view. It has been demonstrated, however, that with a monthly expenditure of—

₱506.90 for employees in the mosquito brigade,
1,044.59 for oil,
177.05 carretelas,
200.00 (estimated) overhead charges, inspection, etc.

1,928.54 total,

it was possible to make the city reasonably free from mosquitoes.

In the work of mosquito extermination the Bureau has been greatly handicapped in not being able to secure the proper oil. Refined petroleum has been used, which evaporates quickly and does not cover sufficient surface. Through the courtesy of the Bureau of Public Works there were obtained a few gallons of oil which they have been using on road construction and it was found that this oil would cover twice the surface of water and last twice as long as the petroleum used by the Bureau of Health.

The great success which has been had in the Canal Zone by the use of larvacide has encouraged this Bureau to try it, and arrangements have now been made to manufacture it.

The formula is as follows:

Crude phenol containing 15 per cent phenols, specific gravity .965	gallons....	150
Rosin	pounds....	200
Caustic soda	do.....	80
Water	gallons....	6

This mixture is claimed to be an efficient disinfectant in dilutions of 1:500 and is an efficient larvacide in dilutions of 1:1,000.

During the early part of June, the sections of the city in which lowlands abound were literally infested by swarms of black night-flying salt-water mosquitoes (*Culex ludlowi*). This

was due to the extremely high June tides which formed salt-water marshes and filled up high pockets in the paddy fields with salt water, and, owing to the vegetable matter encountered therein, ideal conditions were present for propagation of this variety. It is of interest to note here that following upon this pest of Culex mosquitoes there occurred a widespread and severe epidemic of dengue fever and at the same time to invite attention to the fact that the *Culex fatigans* is practically absent.

The loud protests which were voiced against the reappearance of mosquitoes were excellent evidence of the success of the mosquito campaign which had heretofore been carried on. There was also some difficulty experienced because of the reappearance of the *Mysomyia rossii*, which were found in certain fish ponds, licenses for the maintaining of which had been granted by the city. These larvæ were being protected by the algæ that were growing along the borders of the ponds, thus preventing the tides from carrying the larvæ into the bay. The owners claimed that if the algæ were destroyed, there would be no food for their fish. It was only after considerable difficulty that mosquitoes were eradicated from these places.

From the experience had up to the present time in mosquito eradication in the city of Manila, it is apparent that if any further great improvement is to be brought about, it must be through engineering means, which would require an expenditure of some millions of pesos, and that it would be useless to spend very much more money on the methods that are being used at the present time. The present system is doing all that can be expected of it, and at times it has made Manila practically free from mosquitoes. But experience shows that if mosquitoes are to be entirely eliminated, and the reappearance of mosquitoes in swarms from time to time is to be avoided, the engineering work spoken of above must be carried out. With the hope of securing further assistance from the public in the work of mosquito eradication, the following circular was prepared:

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, April 1, 1912.

CIRCULAR K–31.

THE EXTERMINATION OF MOSQUITOES.

Attention is called to the fact that for some time past the Bureau of Health has been making a very strenuous effort to rid the city of Manila of mosquitoes, and in many ways it has met with great success, but it is obvious that with the limited number of men at its disposal it is quite impossible to cover all places in the city of Manila as many times

as are actually necessary, and therefore your hearty coöperation in this work is requested.

Architects, contractors and builders.—It is pointed out that wherever there is any construction work going on there are necessarily excavations made in the ground for posts, fill, etc., which, through thoughtlessness or ignorance, are not filled in afterwards, and which therefore furnish receptacles for water and therefore mosquito breeding places. It is believed by the Bureau of Health that if the persons interested in the building would keep this fact in mind and by an occasional inspection would see to it that all holes not actually needed were filled in, much could be done to assist the Bureau of Health in the extermination of mosquitoes.

Another matter that should be given personal attention is that when drains in and around concrete buildings in process of construction are filled up with loose boards from the forms and these boards begin to decay there is provided food for mosquito larvæ and therefore these drains should be kept free of anything obstructing the flow or evaporation of water.

Also it is pointed out that when concrete vaults or tanks on buildings under construction become filled with rain water and contain small pieces of shavings they furnish breeding places for mosquitoes.

House owners and tenants.—In brief, it should be remembered that in order to eliminate mosquitoes among human beings it is only necessary to avoid collections of still water that remain for more than a few days and that this can usually be done by drainage or by oiling. Trenches, ditches, canals, and holes from which earth is removed and into which rubbish or garbage is placed serve also for breeding mosquitoes as soon as a rain partially fills them with water and sets up decay of the newly placed contents.

Ditches or canals leading from stables or kitchens which contain tin cans, grass, or other rubbish which impedes the flow serve as excellent breeding places for mosquitoes.

Rain barrels and pressure tanks ordinarily found under or on the roof, if not covered with fine wire netting or cloths, serve as excellent breeding places for the day mosquitoes, as do also eaves-troughs clogged by fallen leaves and other débris.

The water in natural ponds at the edges of which horse manure or similar refuse is dumped soon becomes sufficiently charged with decaying matter to afford a breeding place for myriads of mosquitoes, too numerous to be kept in check by natural enemies.

Small receptacles like petroleum cans, pails, vegetable or milk tins, if left around dwellings, collect enough rain water and small leaves and twigs to provide lodging and food for thousands of mosquito larvæ each week.

Undrained lots in which grass or other rubbish is thrown, either for filling or to dispose of it, furnish excellent breeding places for mosquitoes.

Natural or artificial ditches stopped up temporarily by sewer operations or other construction work frequently serve as breeding places for mosquitoes.

The residents of Manila are urgently requested to aid the Bureau of Health to exterminate mosquitoes, and they can be of great assistance by seeing that their house drains, rain barrels, vaults, etc., are properly screened and oiled; that they do not permit an accumulation of tin cans, old bottles, or other receptacles which can hold water; and that they

do not throw rubbish on lots, thereby assisting in the retention of the rain water; and, if it is impossible to give the matter personal attention, by communicating with the Bureau of Health and asking its assistance. A cupful of petroleum in the ordinary vault will prevent the breeding of mosquitoes, or 150 cubic centimeters of petroleum to every square meter of surface, renewed every week, will accomplish the result.

VICTOR G. HEISER, *Director of Health.*

SOME FLEAS OF THE PHILIPPINE ISLANDS.

With the exception of Doctor Herzog's paper on *Pulex philippinensis* in Bulletin No. 23 of the Bureau of Science, October, 1904, very little has been written on the fleas of the Philippine Islands.

The paper recently written by the Assistant Director of Health contains considerable data on the subject.

His conclusions are as follows:

That *Pulex philippinensis* Herzog and Schultze and *Xenopsylla cheopis* Rothschild are identical.

That *Xenopsylla cheopis* is the only rat flea found on the common species of rats in the Philippine Islands.

That only *Ctenocephalus felis* Bouche is found in the Philippines and that *Ctenocephalus canis* Bosc. is absent.

That *Ctenocephalus felis* Bouche in the Philippines differs from the same species in other parts of the world in that the third pair of bristles on the posterior border of the hind tibia is represented by a single bristle and a small hair or more frequently one or sometimes two hairs only.

That *Pulex irritans* Linnaeus is present and does not differ from the species in other parts of the world.

Table of Xenopsylla cheopis examined.

Hosts.	Male.	Female.	Total.	Place.	Date.
Epimys norvegicus					
Epimys rattus	187	259	446	Manila, P. I.	June 15, 1911, to July 31, 1911.
Epimys cuerceti and Mus musculus					
Pachyura murina	2	2	4	do	

These shrews were caught with rats in the same trap.

Table of Ctenocephalus felis examined.

Hosts.	Male.	Female.	Total.	Place.	Date.
Homo sapiens	9	24	33	Baguio, Benguet, P. I.	
Homo sapiens	2	1	3	Manila, P. I.	
Epimys norvegicus	1	2	3	do	
Canis familiaris	3	15	18	do	
Felis domestica	3	10	13	do	
Domestic rabbit	2	1	3	do	
Floor of house	3	5	8	do	

Table of Pulex irritans examined.

Hosts.	Male.	Female.	Total.	Place.	Date.
Homo sapiens	3	8	11	Baguio, Benguet, P. I.	May, 1911.
Homo sapiens	10	14	24	Manila, P. I.	July, 1912.

FOOD AND DRUGS ACT.

The enforcement of the Food and Drugs Act has continued with even more energy than in previous years, much attention having been paid to local products by the Board of Food and Drug Inspection.

This Board has proved of great assistance to the Director of Health in working out the details of problems for him and submitting recommendations, and as it is composed of representatives of the four Bureaus interested in the enforcement of the Food and Drugs Act, it is believed that the importers or dealers feel that a broader view is being taken of their protests than if they had to protest directly to the Director of Health, whose duty it is make the first ruling on a product.

During the year the question of improving the quality of the native brandy made from the fermented juice of the cocoa and nipa palm by pot stills, was taken up. The Board came to the conclusion that a brandy equal to any imported brandy could be manufactured if the methods suggested by the representative from the Bureau of Science, who is the chief of the department of organic chemistry, were carefully followed. A hearing was had before the distillers and liquor dealers interested, but as yet but little result has accrued.

In addition to this, the question of the use of saccharin in food products, the use of aniline dyes in distilled beverages and other food products such as bread and cake has been noted upon. The question of the manufacture of soda water has been investigated, as well as native sauces, macaroni, vermicelli, coffee, labeling of mineral water, and manufacture of *bagong*.

In addition to this many protests have been heard relative to the action taken by the Director of Health against the admission of articles offered for import. Chief among these protests have been those concerning tea, tinned milks, and cheese. Many consignments of tea are offered for import adulterated with the flowers of *Aglaia odorata* presumably to improve the flavor, while other consignments have consisted entirely of the stems of the tea plant instead of the leaf or leaf buds. The competition in the sale of tinned milks is great and new brands are continually being brought in designed to undersell other brands on the market, and not infrequently they are found to be deficient in

total solids or fats. Cheese is another product which has given more or less trouble, numerous brands being labeled "cheese" or "full cream cheese" when they are really deficient in fat and should be labeled "skim milk cheese."

Circular letters have been issued on the subject of the use of aniline coloring matters; on the use of any yellow coloring matter in bread or cake; on the use of saccharin in food products; relative to the proper labeling of certain products, and also a circular letter to importers and others interested stating that after December 1, 1912, the courtesy which has been extended to them to relabel in the custom-house their misbranded articles offered for import will be discontinued, except in the case of articles of food or drugs being offered for importation for the first time. The Food and Drugs Act has been in existence since 1907, and it is believed that this length of time has been sufficient for importers to notify their representatives abroad of the proper way of labeling their articles according to this Act.

A total of 471 articles offered for import has been passed upon during the fiscal year ended June 30, 1912.

Summary of food and drug inspections.

Articles.	Total.	Number of—	
		Adulterations and misbrandings.	Rejections.
Butter	5	0	0
Cheese	17	10	2
Coffee	2	0	0
Coloring matter	4	2	2
Fish, canned	38	3	1
Essences and extracts	28	6	6
Fruits, preserved	5	0	0
Fruit juice	8	1	0
Ginger ale	1	0	0
Glucose	19	8	8
Ham and bacon	3	0	0
Honey	2	0	0
Ice cream	2	2	2
Lard	1	0	0
Meats, canned	28	1	1
Medicines and drugs	27	2	2
Milks, canned	53	8	2
Mineral waters	3	0	0
Olive oil	1	0	0
Oleomargarine	3	0	0
Sauces and condiments	42	5	5
Sausages	5	0	0
Sirup and molasses	4	0	0
Tea	129	34	18
Vegetables, canned	12	0	0
Wines	1	0	0
Miscellaneous	28	0	0
Total	471	82	49

THE ARMY BOARD FOR THE STUDY OF TROPICAL DISEASES AS THEY EXIST IN THE PHILIPPINE ISLANDS.

The Army Board for the Study of Tropical Diseases as they exist in the Philippine Islands has made many valuable contri-

butions to medical science during the past year and the information which it has made available has been of considerable value in promoting the interests of the public health. Experiments on the effect of the ultra-violet ray of light on Manila's water supply have been conducted by the Board; extensive investigations have been made upon the etiology of beriberi, and an extract of rice polishings has been prepared which it is hoped will prove useful in the treatment of "taon" (infantile beriberi?); extensive studies made concerning the effect of the climate upon blonds and brunettes and many other matters of importance were considered.

During the year the Board changed membership and is now composed of Maj. Percy M. Ashburn, Capt. E. B. Vedder, and Lieut. E. R. Gentry. The Board has begun an extensive investigation with regard to sprue and every possible aid is being given it in carrying out researches regarding this disease.

MEAT SUPPLY.

The meat supply of Manila, during the past year, has not been very satisfactory. Owing to the desire to eradicate rinderpest from the Islands, importation of cattle from countries in which rinderpest prevails has been prohibited. In order to safeguard still further the Islands against the introduction of rinderpest arrangements were made for the slaughter of cattle imported from Australia and Indo-China at Sisiman, which is near the Mariveles quarantine station at the entrance of Manila Bay and some 30 miles from Manila. The restrictions placed upon the importation of cattle have caused a considerable advance in the price of meat and it is believed that the people generally are not consuming nearly as much as was formerly the case. With the exception of the foreign residents, the people of the Philippine Islands do not take kindly to the use of frozen or chilled meat, so that the demand could not be supplied by importations in this form. The rise in the price of meat was, no doubt, also responsible for the use of horse meat during the year. A number of horses are now being slaughtered at Caloocan and considerable vigilance is constantly required in order to prevent the use of meat from diseased animals. So far as this Bureau has been able to ascertain, from a strictly health standpoint there is no objection to the use of horse meat, provided, however, it is from sound animals. On account of the fact that a well-balanced diet is essential in maintaining good health, it is hoped that it will soon be possible for the Government to make arrangements whereby the cost of meat can be reduced, thus

making it again available for the many persons who are now unable to purchase it.

SEWER CONNECTIONS.

The sanitary betterment of the city of Manila has been seriously handicapped during the past year by the continuance in force of the injunction granted by the Court of First Instance which upholds the contention that Ordinance No. 125 is void in parts, and on account of which this Bureau is prohibited from compelling the connection of premises with the sanitary sewer. The case is now pending on appeal in the Supreme Court. Last year there were 1,058 sewer connections made, while this year there were only 950. If there had been no legal restrictions it is believed that at least 50 per cent more connections would have been made. When it is remembered that the total number of premises to be connected in the city of Manila is estimated to be 6,000 and that the new sanitary sewer has been ready for service since May 25, 1909, it is apparent that at this rate of progress a great many years must necessarily elapse before the many nuisances which now exist in the city of Manila can be permanently abated.

On account of the fact that facilities are now available in the city of Manila for making connections much more rapidly than heretofore, it is greatly to be regretted that so much time has to be consumed in overcoming the legal obstacles which have been strewn in the path of the Bureau of Health.

ARTESIAN WELLS.

It is satisfactory to report that there were more funds available during the past year for the installation of artesian wells than has been the case during previous years, and considerable progress has been made in providing new wells. The following is a brief list, by provinces, of those that were successful and unsuccessful:

Provinces.	Successful.	Unsuccessful.	Provinces.	Successful.	Unsuccessful.
Ambos Camarines	15	3	Nueva Ecija	9	
Occidental Negros	3	1	Nueva Vizcaya	4	1
Albay	1		Leyte	3	2
Cavite	1		Rizal	16	3
Tayabas	2		Laguna	8	
Iloilo	0	1	Pangasinan	4	3
Batangas	5		Samar	1	1
Cebu	3		Ilocos Sur	0	2
Cagayan	1	1	Tarlac	23	3
Bulacan	18				
Bataan	16		Total	143	21
Pampanga	10				

Owing to the unprecedented drought which prevailed in the Philippine Islands during so many months of the past year, in many instances the usual sources of water supply failed, and the artesian wells furnished water where, otherwise, great distress would have resulted, and, in consequence, many expressions of approval of the Government's course in installing artesian wells were heard.

SPECIAL INVESTIGATIONS IN THE BATANES ISLANDS.

Owing to their great isolation, and the fact that transportation to the Batanes Islands is available only a few times each year, these islands have not received the same amount of sanitary supervision as has been the case in other parts of the Philippines. This year, however, the Secretary of the Interior ordered Dr. D. G. Willetts, of the Bureau of Science, to make an investigation of the diseases that prevail among the inhabitants of the Batanes Islands, more especially with regard to a strange fever which was alleged to exist there. The stools of 400 persons were examined. Among these were found two cases of amœba and one of balantidia; 66 per cent had *Ascaris lumbricoides*, and 26 per cent had hookworms, and the entire 400 were afflicted with at least one form of parasite.

The fever, on the Island of Itbayat, which is greatly feared by the natives, was investigated, and, from the symptoms he saw, Doctor Willets was led to infer that the disease was malaria. Spleen examinations made of several hundred persons in the infected area showed marked enlargement in only one case. Numerous blood examinations failed to reveal any parasites. Later, however, Doctor Willets contracted the fever himself, and as the symptoms were identical with those which had been described to him and since he found the æstivo-autumnal parasites in his own blood, it is reasonable to infer that the fever which prevails there is malarial in character.

The population of the islands is about 12,000 and there is not one physician among them. There is a practicante or undergraduate in medicine who renders considerable aid. A large supply of medicines was left with him and additional instructions how to use them were given.

LIGHTNING STROKE.

According to the United States census there is one death from lightning stroke for every 333,333 of the population, whereas, based on the figures for the Philippine Islands for the past five years, there is one death here among every 155,556 of the

population. In the Philippine Islands, thunderstorms are most frequent during the months of April, May, and June, and the number then gradually declines until January. During January and February electrical storms are exceedingly rare, although it is known that they have occurred. From the foregoing, it will be apparent that, in view of the fact that thunder storms occur in the United States during not more than six months of the year, and that they may occur in the Philippines throughout the entire year, the incidence of lightning stroke in the Philippine Islands is approximately the same as in the United States.

THE MANILA WATER SUPPLY.

It was most unfortunate that just at the time Manila was beginning to derive the maximum results, as measured in terms of a constantly decreasing death rate in the waterborne diseases, the new Montalban supply should become exhausted. The extraordinarily long drought experienced this year made it necessary once more to obtain the water for the city from the polluted Mariquina River. The Manila mortality rate gave every indication of reaching a much lower figure than had been reached at any time in the history of the city. It was, therefore, with considerable regret that the Bureau of Health viewed conditions which would interfere with the consummation of this most desirable result. The influence which the water supply of Manila has upon its death rate can best be seen by a brief review of the vital statistics since the new water supply became available. It may, perhaps, be remembered that the new water system has been in operation since 1908, which makes it practicable to compare the deaths, especially from intestinal diseases, with the number which occurred prior to the time when the new water was available. It will, perhaps, also be remembered that, previous to the use of the Montalban supply, the water for the city was obtained from the Mariquina River which gave drainage to a watershed upon which at least 10,000 persons lived, who considered it their inalienable right to pollute and defile the stream as they wished. The Montalban water supply comes from a practically uninhabited watershed some 30 miles distant from Manila. Up to the present time, no filtration system has been installed, and the water is the ordinary surface water found in the Tropics, contains amœbæ, and has a bacteriological count that, under favorable conditions, varies, approximately, from 150 to 300 bacteria per cubic centimeter. At the time that the new reservoir was constructed, it was the intention to provide a purifying

or filtration system. This has not been undertaken as yet, owing to the fact that there is not sufficient data available as to whether the amœbæ found are pathogenic or nonpathogenic. Experiments with filters has shown that all of them permit the passage of amœbæ, so that, if it should prove that the amœbæ are pathogenic, some system of purification will have to be used which will not permit of their passage. During the early part of the year, very favorable results have been obtained from experiments with the ultra-violet ray. In order to test this on a more extensive scale, a larger experimental plant has been ordered, and will be tried in the near future. It is interesting to observe, however, that in spite of the fact that the water has not been purified, there still resulted a marked diminution in the so-called water-borne diseases. For instance, for 1907, there were 344 deaths from dysentery; in 1911 there were 143. Of deaths from convulsions of children, which are generally admitted to be due to intestinal disturbances, there were, in 1907, 1,315, and, in 1911, 519. Of chronic diarrhœa and enteritis, under 2 years of age, there were 224 in 1907, and 120 in 1911. Among persons over 2 years of age, there were 553 deaths from diarrhœa and enteritis in 1907, and 151 in 1911. From the foregoing, it will be seen that there has been a reduction of almost one-half in the water-borne diseases.

The following were the death rates during the time the Mariquina water had again to be resorted to, and they are of special significance. The Mariquina water was used the first time from June 28, 1911, to July 27, 1911, and for the second time from March 9, 1912, to May 24, 1912. Based upon an average of the deaths for 1909, and 1910, the normal number of deaths for July, 1911, should have been 745; for August, 705; and for September, 656, or a total of 2,106. This year for July there were 830 deaths; for August, 878; and for September, 741, or a total of 2,449. This is 343 above the average rate.

Based upon an average of the deaths for 1909, 1910, and 1911, the normal number of deaths for March, 1912, should have been 611, for April, 564; and for May, 585, or a total of 1,760. This year, for March there were 732; for April, 671 and for May, 701, or a total of 2,104. This is 344 above the average rate.

Briefly then there have been 687 more deaths during the year than probably would have occurred had the Montalban supply been continuously available.

It is pointed out that, contrary to the experiences in the United

States, the highest death rate from the use of this polluted water was during the rainy season. This was probably due to the fact that the water receives most of its pollution from deposits of fecal matter being washed from the surface of the ground by

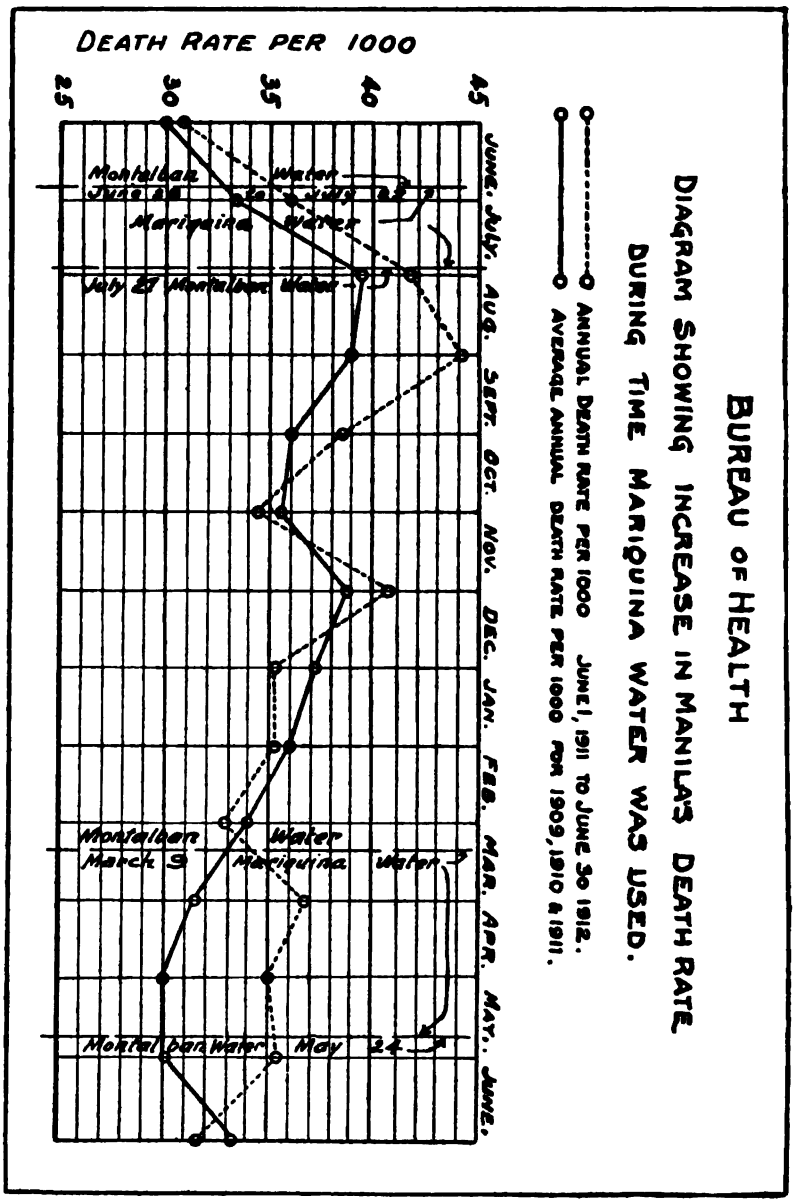

BUREAU OF HEALTH
DIAGRAM SHOWING INCREASE IN MANILA'S DEATH RATE DURING TIME MARIQUINA WATER WAS USED.
ANNUAL DEATH RATE PER 1000 JUNE 1, 1911 TO JUNE 30 1912.
AVERAGE ANNUAL DEATH RATE PER 1000 FOR 1909, 1910 & 1911.
DEATH RATE PER 1000
25
30
35
40
45
JUNE. JULY. AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY. JUNE.
Montalban Water
Mariquina Water
July 27 Montalban Water
Montalban Water
March 9
Mariquina Water
Montalban Water
May 24

PLATE I.

the rains, whereas in the United States with proper sewage systems the same pollution is continually going into the water but rains so greatly dilute it that the contamination is proportionately less.

The accompanying chart shows in a graphic way the difference between the average rate and the rate that resulted this year during the time that the Mariquina water was used.

COLLECTION OF HUMAN WASTES IN THE PROVINCES.

The Bureau is still working to improve the system for the collection of human waste matter in the provinces. As has been pointed out before in these reports, in many places there is no system, feces being deposited on the ground and the pig acting as the scavenger. The closet to be found in the house is usually most objectionable and insanitary in the highest degree.

Taking everything into consideration, it is probable that a pail system for provincial towns is the most desirable, the contents of the pail to be properly buried at a sufficient distance from any superficial well. The expense of a municipal system for the collection of the pails, while not great, is usually more than the average municipality's finances will permit, and it is therefore usually left to the householder to dispose of the contents of his own pail when such a system is installed.

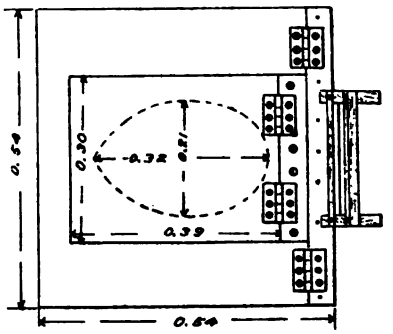
There has recently been designed in the Bureau of Health a closet of the pail type which is cheap, light and sanitary. The pail itself is a coal-oil tin with the top removed by the aid of heat to melt the solder. Around this is built a light open framework of wood, the top of which forms the seat, the hole being directly over the tin, and covered by a hinged lid. This seat and the top of the tin must touch so that there will be no crack through which flies may gain entrance while at the same time the tin may be removed from the side of the holder with ease. The whole thing, being open, may be kept clean; being light, it may be moved from place to place in the house if necessary; and when well made will prevent the ingress of flies and the egress of foul odors. It can be made cheaply and easily. The tin itself will last a month or more and is so cheap that it may be replaced whenever necessary. The contents of this tin should, of course, be properly disposed of. The accompanying cut shows the manner of its construction.

BUREAU OF HEALTH FOR THE PHLIPPINE ISLANDS
DIVISION OF SANITARY ENGINEERING

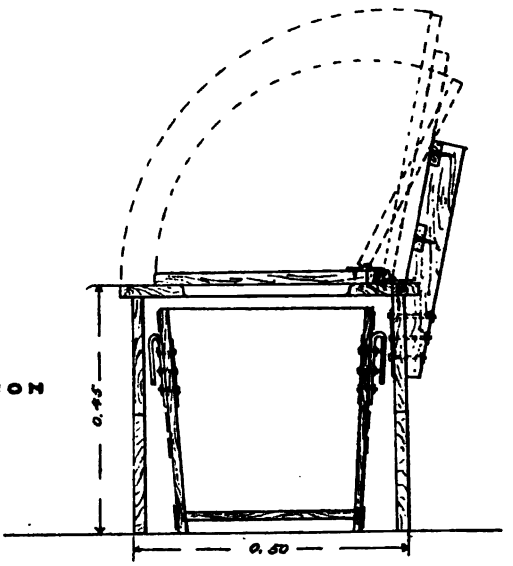
SCALE
0 .1 .2 .3 .4 .5 M

JULY, 15, 1912
Geo. H. Guerdrum
Sanitary Engineer.

TOP VIEW



SECTION



DESIGN FOR A NEW COMMODE
FOR THE
PAIL SYSTEM
CITY OF MANILA

PLATE II.

THE EFFECT OF COPPER SULPHATE AND CALCIUM HYPOCHLORITE UPON THE MANILA WATER SUPPLY.

The accompanying chart (Plate No. III), shows in a graphic way the effect upon the number of bacteria during the time that copper sulphate and calcium hypochlorite, respectively, were used in the Manila water supply. Both chemicals were used in the proportion of 1 to 3,000,000.

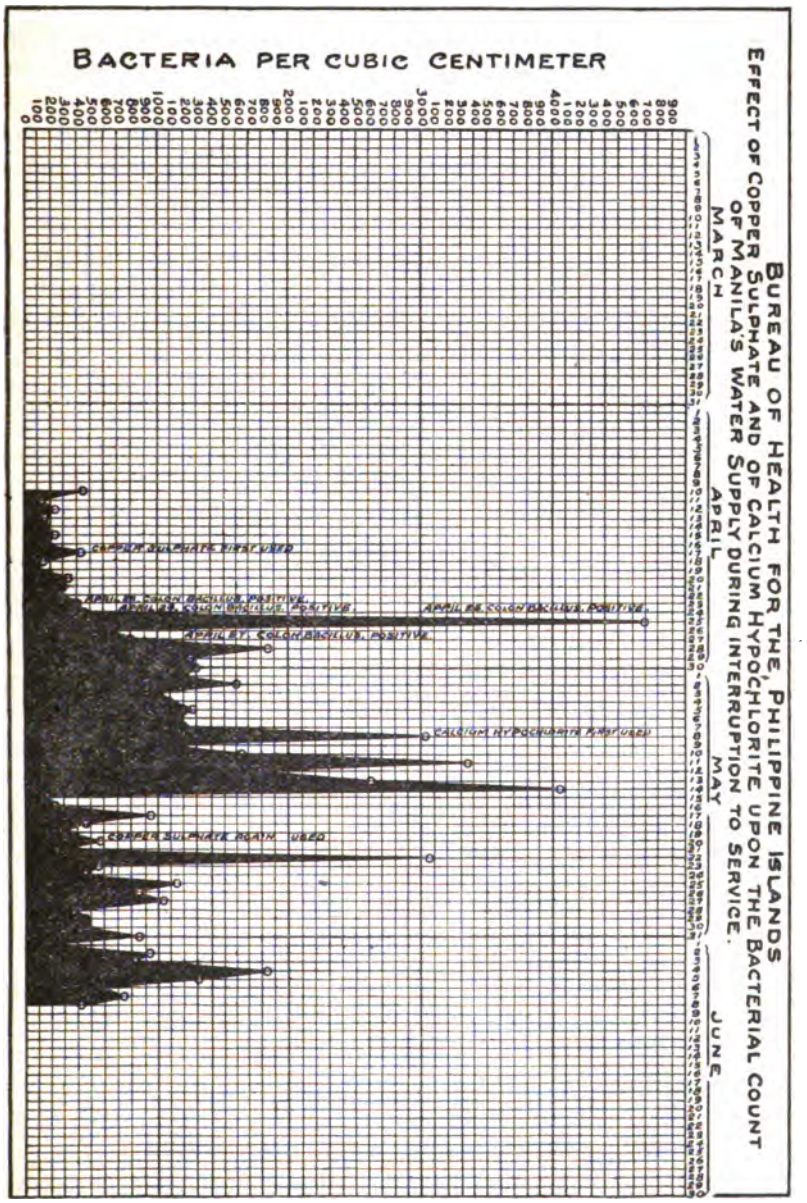

BACTERIA PER CUBIC CENTIMETER
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS
EFFECT OF COPPER SULPHATE AND OF CALCIUM HYPOCHLORITE UPON THE BACTERIAL COUNT OF MANILA'S WATER SUPPLY DURING INTERRUPTION TO SERVICE.
MARCH
APRIL
MAY
JUNE
COPPER SULPHATE FIRST USED
APRIL 28. COLON BACILLUS POSITIVE.
APRIL 29. COLON BACILLUS POSITIVE.
APRIL 27. COLON BACILLUS POSITIVE.
CALCIUM HYPOCHLORITE FIRST USED
COPPER SULPHATE AGAIN USED

PLATE III.

PHYSICAL EXAMINATIONS.

The medical examination required of applicants for the Philippine civil service, Philippine Training School for Nurses, and motor vehicle drivers is conducted by the Bureau of Health.

During the year, 774 persons were examined of whom 673 were passed, making 247 examinations more than for the year 1911. Twenty-three applicants were examined for the Philippine Training School for Nurses, with three rejections: One under age, two for tuberculosis. One hundred and seven applicants were examined for motor vehicle driver, with two rejections.

The following table shows the number of persons examined and the result of such examination, also cause for rejections:

Positions.	Passed.	Rejected.	Total.	Positions.	Passed.	Rejected.	Total.
First-class policeman (American)	30	0	30	Second-class Constabulary sergeant	1	0	1
First-class fireman (American)	33	0	33	Hospital attendant (American)	1	0	1
First-class prison guard	22	1	23	Cadet U. S. Army (Scouts)	5	0	5
Second-class prison guard	37	1	38	Promotion police sergeant	4	0	4
Second-class fireman	35	3	38	Foreman, construction	1	0	1
Third-class patrolman	60	3	63	Junior teacher	1	0	1
Third grade	20	3	23	Engineer's assistant	1	0	1
Third-grade apprentice	170	74	244	First-class bookkeeper	1	0	1
Messenger	1	0	1	Junior translator	2	0	2
Second grade	8	1	9	Stenographer	1	0	1
First-grade clerk	1	0	1	Third-grade watchman	1	0	1
Machinist	2	0	2	Clerk, certified appointment	65	5	70
Mate (American)	1	1	1	Checker, Bureau of Customs	2	0	2
Provincial police	11	1	12	Weigher, Bureau of Customs	2	0	2
Nurses, males	18	3	21	Motor driver	105	2	107
Nurses, females	2	0	2				
Junior surveyor	23	3	26	Total	673	101	774
Third-class custom guard	6	0	6				

Cause of rejection.

Poor vision (motor driver)	2
Under weight	36
Under height	21
Nurses (under age, 2 tuberculosis)	3
Tuberculosis and other pulmonary conditions	33
Organic heart disease	6
Total	101

SIMPLE REMEDY PACKAGES.

There has been a steady increase in the use of the "simple remedy" packages, mention of which, with a list of their contents, has been made in previous annual reports. Inspection trips have shown that these packages are being used with good effect in the most remote portions of the Islands, and are of particular service where medical aid is not available. The simple instructions contained in the pamphlet which accompanies

them have, no doubt, proved of great value in extending medical knowledge, and the medicines themselves have relieved incalculable pain and suffering.

DEATH RATE IN MANILA.

The excellent prospects for a lower death rate than prevailed in Manila during the preceding year failed of realization. In view of the fact that the increased death rate corresponded to the period during which accidents to the new Montalban water supply made the use of Mariquina water necessary, it is considered reasonable to infer that the increase was due to the poor quality of water which was furnished during that period. An analysis for the cause of this death rate will be found under the heading "Manila water supply."

The increase in the death rate over the figures for last year was 3.82 per thousand making the rate for the year 36.82. In this connection it is interesting to observe, however, that the death rate since the Montalban supply became available is still far below that which prevailed while Mariquina water was being used.

Another noteworthy point is the fact that the death rate among the Americans has been steadily increasing from 5.59 per thousand in 1907 to 16.53 per thousand for the year just closed. There are no data available to account for this steady increase in death among Americans.

There is also considerable evidence that the true death rate for the city of Manila is in reality lower than the figures show. It is becoming more and more known that many residents of the provinces upon finding themselves threatened with serious illness immediately come to Manila and claim this city as their permanent place of residence and are therefore included in the vital statistics for Manila, whereas in reality the deaths which occur among such persons should be charged to the provinces. Attention is also invited to the fact that in view of the very large increase which took place in the number of cedulas, or head tax certificates, which were sold during the past year, there is reason to believe that the population of Manila is now considerably greater than the figures for 1910 show, upon the basis of which the death rates are calculated.

STREET CLEANING.

Street cleaning is performed by the department of sanitation and transportation. It does not come within the duties of this Bureau, but its influence on public sanition is such as to bring it under the supervisory observation of the health authorities.

The condition of the streets of Manila would reflect credit on any city of equal size in any part of the world, notwithstanding that certain local conditions, such as the use of the carabao as a draft animal, make it difficult to preserve cleanliness.

THE FAJARDO ACT.

Another of the recommendations made in previous annual reports, for a better organization of the municipal health service in the provinces, had its partial realization in Act No. 2156, entitled "An Act authorizing the consolidation of municipalities into sanitary divisions and the reorganization of the muincipal boards of health created by act numbered three hundred and eight; defining their powers and duties, and providing for each province a special fund to be known as 'health fund,' for this and other purposes."

This Act provided that provincial boards for the purpose of health administration may divide the provinces into sanitary divisions which may comprise one or more municipalities, and this shall be effected in a province whenever their organization has been agreed upon by at least two-thirds of the municipal councils concerned. A two-thirds vote of the councils also dissolves such divisions. The purpose of this Act is to provide skilled medical attention for the municipalities which have no physicians. The president of a health division is required by law to visit each municipality at least once a week, and to hold clinics not less than two hours a week in each municipal building of his division or in some other building, if more suitable.

This Act is a laudable one, but it remains to be seen whether its provisions can be carried out to the advantage of the public service. The duties prescribed for the president of the municipal health division are so numerous and so exacting, it is questionable if they can be performed under existing conditions in many of the divisions in which they are to be organized. The question of transportation, the inconsistency of a large division, which, of course, means a larger salary for the president with the proper performance of the duties, the local rivalry, and the ever-present question of provincial politics may tend to complicate the situation and produce failure.

The law imposes upon the president the duty of giving public lectures, as often as convenient, at least once a year, in each of the barrios or other convenient areas of his sanitary division. Since barrios are often far removed from the municipalities to which they belong, and frequently many in number, this part

of the work alone will be no inconsiderable task, and if done well, should be of very great importance.

REGULATIONS RELATIVE TO THE SALE OF DRUGS IN THE PHILIPPINE ISLANDS.

Incidental to the administration of the Food and Drug Act, the following regulations pertaining to medicines have been issued by the Bureau of Health:

1. A drug shall be deemed misbranded: First, if it be an imitation of or offered for sale under the name of another article. Second, if the contents of the package, as originally put up, shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation or any such substances contained therein. (Act 1655, sec. 8.)

2. No preparation containing opium or any of its derivatives, can be dispensed except by a regularly licensed pharmacist on doctor's prescription. (Act 1761, sec. 5.)

3. Medicines containing morphine, opium, heroin, cocaine, alpha or beta eucaine, cannibas indica, chloral hydrate, acetanilid or any derivative, or the preparation of any such substances contained therein, arsenic, arsenical preparations, phosphorous, corrosive sublimate, cyanide of potassium, or other cyanide, atropine, strychnine, or any of their salts, and all other poisonous vegetable alkaloids or any of their salts, hydrocyanic acid, oil of bitter almonds containing hydrocyanic or prussic acid, oil of mirbane (nitro-benzene), aconite, belladonna, cantharides, colchicum, conium, cotton root, digitalis, ergot, hellebore, henbane, phytolacca, strophanthus, oil of tansy, veratrum viride, or their pharmaceutical preparations, carbolic acid, (phenol), creosote, croton oil, mineral acids, oxalic acid, paris green, salts of lead, salts of zinc, tartar emetic, and white hellebore, can be sold only in drug stores operated by a regularly licensed pharmacist. (Act 597, sec. 19 and 20.)

4. Medicines not containing any of the drugs mentioned in paragraph 3, may in a general way be considered household remedies (in the meaning of section 23, Act 597), and may be sold by grocers and merchants. Under the name of household remedies may be included quinine, epsom salts, castor oil, cough mixtures not containing opium or its derivatives, iron, sulphur, etc.

5. In order to determine whether a medicine may or may not be sold in grocery or other stores not operated by a regularly licensed pharmacist, a sample of the medicine in question is to be taken and submitted to the Bureau of Health for examination by the Bureau of Science, and upon the result of this examination will depend the decision as to what class this medicine belongs.

6. Registered physicians are allowed to put up their own prescriptions or dispense medicines for their patients. Such physicians must, however, label any poisonous drugs which they dispense. (Act 597, sec. 23.)

7. No peddling of drugs of any kind is permitted. Act 597, section 23, permits grocers or other merchants to sell certain remedies. According

to Webster's Dictionary, peddlers are neither grocers nor merchants, and, therefore, the peddling of medicines is not permitted.

8. The principal labels on drugs for domestic commerce shall have printed in English, with or without the foreign label of the country where the drug is produced or manufactured, all information required by law, namely; name of substance or product, the proportion and nature of the ingredients named in paragraph 1, name of manufacturer and place of manufacture and whether artificially colored. (Regulation 16, Act 1655.)

9. Pharmacopoeal preparations contained in stock shelf bottles, in drug stores operated by regularly licensed pharmacists, and which are replenished from time to time from the original containers, do not come within the meaning of paragraphs 1 and 8.

10. No false or misleading statement, design or device can appear on the label, nor in any descriptive matter. (Regulation 16, paragraph (*d*), Act 1655.)

11. The Director of Health reserves the right to add other drugs which he may deem habit forming or poisonous to the list of drugs which can only be sold by regularly licensed pharmacists.

12. District health officers will see that patent medicines or other drugs or mixtures of drugs, dispensed without physician's prescription, comply with these regulations.

LEGISLATION.

The following Acts and ordinances bear directly or indirectly upon the question of the public health and their numbers and titles are here given for the sake of giving them due publicity:

Act 2116.—This Act creates a committee to investigate causes of the excessive infant mortality in the Philippine Islands, to recommend measures which should be adopted to decrease such mortality, and appropriating the sum of ₱10,000 for carrying the Act into effect.

Act 2122.—This Act provides for the confinement of insane persons in Government hospitals, or other institutions for the insane, and for the appointment of boards of competent medical inquiry in cases of doubt. Provision is made for the immediate commitment of the insane by the Director of Health in cases of emergency until such a time as due hearing may be had in court. When in the opinion of a municipal president insane persons constitute a menace to the safety of others, or are in danger of committing serious injury to themselves, or when the conduct of suspected insane patients is such as to call for immediate restraint they shall provide for the proper custody of such persons, and report the facts immediately to the Director of Health.

Act 2147.—This Act appropriates ₱70,000 contributory to the support of charitable institutions as follows:

For the campaign for the extermination of tuberculosis by the Philippine Islands Anti-Tuberculosis Society, fifty thousand pesos; for the

protection of infants, through the institution "La Gota de Leche" twelve thousand pesos; for the Mary J. Johnston Hospital, eight thousand pesos. Total seventy thousand pesos: *Provided*, That no such appropriation shall be paid to any institution that makes any discrimination as to persons received or treated by the same on the ground of religious belief.

Act 2152.—This is an Act which indirectly affects the public health by providing for the appropriation of public waters, and for the determining of existing rights thereto; for the public registration of all water rights; for the creation and use of water power; for investigations for and the construction, maintenance, and operation of irrigation systems by the Government of the Philippine Islands; for the repayment of money expended therefor; for the construction, maintenance, and operation of irrigation systems by private persons, for the inspection and regulation of all works pertaining to the use of water.

Act 2156.—Authorizes the consolidation of municipalities into sanitary divisions, defines the powers and duties of such divisions, and provides for the collection through taxation of the special fund to be known as a *health fund.*

Act 2161.—An Act amending Act No. 1975 pertaining to the training school for nurses of the Philippine General Hospital by removing the restrictions as to the number of nurses of each sex that may be admitted during one year. The change made is in section 2, and is as follows:

The Director of Health, so far as is consistent with the interest of the public service, shall select from amongst those persons jointly recommended by district health officers and division superintendents of schools, or in default thereof by provincial boards, students for the aforesaid classes from provinces organized under the Provincial Government Act, and from the Provinces of Palawan, Mindoro, and Batanes, and the number of students shall not exceed one hundred in all of each sex: Provided, that in the admission of said students the highest average obtained in the examinations referred to in subsections (*a*) and (*b*) of the next preceding section, shall be taken into account.

Ordinance No. 153.—Section 247 relates to the numbering of buildings, specifying buildings to be numbered, plan of and method of placing numbers, and prescribes the penalty for taking down, altering, or defacing numbers.

Ordinance No. 157.—This ordinance appropriates sums of money for sanitary improvement fund; removing and rebuilding nipa houses; numbering houses; reconstruction of midden sheds; midden sheds on Mariquina reservation and in city of Manila; street work in sanitary barrios; Paco Market; extensions of water mains, sewers, and storm-water drains.

Ordinance No. 158.—Section 122, specifies the building mate-

rials that may be used in strong and light material districts, respectively. It also gives the boundaries of the fire wall district and cites the regulations and restrictions under which fire walls must be erected.

Ordinance No. 164.—This ordinance amends chapter twelve of the Revised Ordinances.

Section 180 designates the method of procedure in making application for plumbing repairs.

Section 191 relates to the installation of plumbing fixtures and connection with the sewer line.

Section 192 cites causes for condemnation of plumbing and gives the conditions under which the engineer may suspend work and reasons for withholding permits.

Section 195 relates to method of installing soil and drainage pipes and specifies materials to be used and method of construction.

Section 215 specifies locations where water-closets may not be placed.

Section 217 states kinds of water-closets that may be installed and method of installing and flushing. Floor materials to be used. Class of urinals to be installed and where.

Section 219, class of sinks, etc., prohibited.

Section 223 relates to inspection and tests of plumbing.

Section 224 concerns the issuing of certificates of approval for plumbing.

Ordinance No. 172.—Section 124 specifies the kinds of light building materials that may be used in light material districts, and cites certain restrictions for the use of these materials. It also specifies height of light material fences.

Ordinance No. 149.—This ordinance relates to public health and to the establishing of regulations to prevent the pollution of the water courses of the Mariquina reservation. It was passed under authority of Act 1150, and has regulations governing trespassing, pollutions of streams, garbage cans, public midden sheds, privy pits, location for disposal of garbage and night soil, bathing in water courses, corrals, drainage of stables, inspection, sanitary guards, police jurisdiction, and for certain prohibitions. It is also provided that infraction of the ordinance shall be tried before the municipal court of Manila, and that the present occupants of the estate known as the Pingay Estate may remain on it pending the decision of the Court of Land Registration on the claim of the said occupants.

Ordinance No. 169.—This ordinance amends section 229 of the Revised Ordinances, so as to read as follows:

SECTION 229. *Measurement and size of courts, and so forth.*—Courtyards and light wells shall be measured in the clear of all projections into them, with the exception of roof leaders, wallcoping, sills or fire escapes, not exceeding one and twenty one-hundredths meters in width. The minimum size of a court for a one-story building shall be six square meters; for a two-story building nine square meters; for a three-story building twelve square meters and for a four story building twenty square meters. No court, courtyard, or light well shall be less than two meters in width for a one or two-story building, nor less than three meters in width for a three or four-story building: *Provided*, that where the first story of a building is used for business purposes only, the upper story or stories, being for dwelling purposes, the space occupied by the first story may conform to the requirements prescribed for business buildings, except that no court or light well shall be less than that hereon prescribed, but the upper stories must conform to the requirements for buildings used for domestic purposes.

SEC. 229 (*a*). *Shops or stores with domestic quarters in connection.*—Buildings or parts of buildings intended for the dual purpose of shops or stores, with living quarters in connection, shall have suitable and separate living quarters for each tenant, proprietor, or established business. Such living quarters shall consist of suitable sleeping room or rooms, kitchen, toilet and bathroom, and such quarters shall pertain to and form a part of the apartment. Living quarters of two or less rooms shall be provided with not less than one water closet and bath for every three rooms, but common kitchens shall be prohibited.

SEC. 229. (*b*). *Kitchen and water-closet accommodations in tenements.*—In every tenement house hereafter erected, there shall be a separate kitchen, provided with running water, a paved floor, and a separate water-closet for and within each apartment.

The foregoing ordinance shows that Manila is building for the future, and that the central idea is ventilation and health.

PROVINCIAL REPORTS.

Heretofore the district health officers have been given the greatest latitude with regard to their reports of health conditions in the provinces. Consequently such reports varied greatly in substance and frequency, according to the ideas of the reporting officers.

In order to establish uniformity, and to obtain definite data with regard to health conditions, it became necessary to restrict their reports more to those conditions which affect the public health, so as to eliminate generalities.

The following circular was issued as a guide.

Hereafter until further notice district health officers when visiting any of the municipalities within their districts shall make a complete report

upon each municipality visited. The district health officer shall try to visit each municipality at least once every two months.

His report shall include a report on all jails and prisons, both provincial and municipal, giving a statement as to the sanitary conditions; water supply; overcrowding; diseases encountered and any other information which may be pertinent; in case any suspected tuberculosis is found samples of sputum shall be taken and forwarded for examination.

A report shall be made upon markets, their sanitary condition, location, whether the proper ordinances are enacted for the protection of food and the proper handling of the same.

A report shall be made giving a statement as to what amount has been appropriated by the municipality for sanitary purposes; whether or not disinfectants and pumps are on hand; whether the latter are in good condition, and whether both are available for immediate use; whether the municipality has on hand medicine for treating the indigent sick.

A report shall also be made upon the sanitary personnel of the municipalities, number of inspectors, salaries, and report as to their efficiency.

A report shall also be made upon cemeteries, whether or not they have been approved by the proper authority; whether maintained in a sanitary condition and whether any of them should be closed and new ones substituted.

A report shall also be made upon all Government buildings as to their sanitary condition.

A mortality report shall be made for the previous three months giving the most common cause of death, with normal mortality and number of inhabitants; prevailing diseases presence of malaria, dysentery, acute enteritis, tuberculosis, beriberi, yaws, cholera, smallpox, and leprosy.

A report shall be made as to the source of the water supply of the municipality. If artesian wells, how many.

A report shall also be made of any tobacco factories within the province, as to the sanitary arrangements, etc.

In short the report shall include a complete report on all sanitary matters connected with the municipality and shall be rendered as soon as possible after the inspections have been made.

District health officers shall also, wherever possible, make it a point to collect blood-sucking insects, as mosquitoes, biting flies, fleas, ticks, lice, and mites, etc., from human beings and animals, and transmit the same to the Bureau of Health.

BICYCLES AND SANITARY INSPECTORS.

The largest single item of expense which the Bureau of Health has to meet is that of transportation. The nature of the duties of its employees is such that, in order that they may be of the greatest service, rapid transportation is necessary to the point at which their services are required. After experimenting with automobiles, motor bicycles, carromatas and street cars, it has been demonstrated that ordinary bicycles are the cheapest and most satisfactory method of transportation in places like Manila, and it is now the definite policy of the

Bureau to require that sanitary inspectors shall own their own bicycles as a condition of employment, just as a carpenter is expected to furnish his hachet, saw, and other tools, when employed.

THE HOUSE FLY.

That Manila can be kept comparatively free from flies is not a matter of theory but a practical fact. The daily collection of garbage; daily sweeping of the streets; and the removal of forms of manure daily from every portion of the city, and the cleanliness of public markets and similar places, have long since demonstrated what can be done in this connection. In the Philippines the life of the average house fly is approximately three weeks. In view of the foregoing, this Bureau has considered it useless to attempt campaigns for the killing of adult flies. Money that is spent in this direction could be used to very much better advantage in preventing the breeding of flies by millions, rather than in spending similar sums of money in purchasing dead flies by thousands. Those who are familiar with the city of Manila will most likely ask why it is that in recent years flies are so frequently seen in Manila. The answer to this question is simple: Manila still has many hundreds of acres of lowlands, and, on account of the great cost of filling material, the risk has frequently been taken of temporarily breeding a few flies in order to eliminate a greater nuisance permanently. Flies also have resulted frequently from the fertilizers used in making lawns which have done so much to beautify the city of late years. In other words, horse manure and street refuse is frequently used in filling in lowlands and fertilizing gardens. If this is done in accordance with the terms which are imposed, then the filling would be carefully sprinkled with kerosene and covered with at least 20 centimeters of clean earth and no flies would be likely to breed, but, unfortunately it often happens that the conditions of the permit are violated, and these violations do not come to the notice of the sanitary inspectors in time to prevent the breeding of flies. There is also an additional difficulty in that it is claimed by many horticulturists that street cleanings and refuse that are sprinkled with kerosene lose their fertilizing properties, so that it would seem, if we desire to have lawns and flowers, we must run the occasional risk of having flies with us at temporary intervals.

CREMATORIES.

Owing to objection because of religion, there has been no great demand in the city of Manila for cremations. Most of the requests come from Japanese and Americans, and it is rare to find cremation permitted by a Filipino family. This attitude probably accounts for the poor facilities for cremations which exist. At San Lazaro there are two crematories of the old design, neither of which is very satisfactory. It was proposed to request funds for the construction of a new crematory, but as the Municipal Board of the city of Manila contemplates building a modern crematory in the near future, there is no necessity at the present time, for a duplication of this work.

MORGUES.

There are three morgues in Manila—two belonging to the Civil Government and one belonging to the military authorities. The morgue for dangerous, communicable diseases is located at the San Lazaro Hospital. The city morgue for general diseases is operated in connection with the College of Medicine and Surgery of the University of the Philippines, the expenses being borne jointly by the college and the Bureau of Health. The custom, which was so common up to a few years ago, of burying the dead in secret places, and of throwing them into the river or bay, in order to prevent their being sent to the morgue is now rapidly disappearing, and instances of this kind are seldom encountered.

THE ANTIPOLO PILGRIMAGE.

A study of the world's sanitary history has taught the sanitarian that religious pilgrimages are intimately associated with the spread of dangerous, communicable diseases. The annual pilgrimage to Antipolo, at which as many as 10,000 persons are present each day, constitutes a grave sanitary menace, and for this reason it has been customary for the Bureau of Health to minimize the danger as much as possible with the means at its disposal. This year a district health officer and six sanitary inspectors were stationed there. One of the greatest dangers connected with the pilgrimage is the fact that it is customary, after visiting the virgin, to bathe in the river which flows by the town. The water for drinking and other domestic purposes is obtained from this river at a point below where the bathing takes place. In order to supply a better drinking water, an artesian well has been sunk. Unfortunately, the quality of the

water is not of the very best, and on account of a slightly disagreable taste, it is almost completely eschewed by the people, who still continue to obtain their water supply from the river.

Another source of grave danger is the lack of proper facilities for the disposal of human excrement. The sanitary facilities of the town are not nearly sufficient to meet the demands of the great number of persons who go there. This always constitutes a great danger of spreading cholera, typhoid fever, and diseases of an intestinal origin. This year, smallpox made its appearance in Antipolo, but fortunately there was no great spread of the disease because all adults are vaccinated, and the cases occurred almost entirely among children under 3 years of age who have been born since the last systematic vaccination, and, therefore, were unprotected.

One of the unsatisfactory things in connection with doing sanitary work of this kind is that no funds are provided for the purpose. The municipality has not sufficient revenues with which to provide for the installation of a sewer system, or even a pail system, and sufficient help to keep the public markets in a cleanly condition, nor is there a sufficient force available to provide ordinary municipal cleanliness. It is believed, in order to remedy this condition of affairs, that municipalities should derive some sort of revenue from pilgrimages of this kind in order that there may be money available with which to meet the cost of sanitary maintenance.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The necessity for careful supervision of the health and development of school children is no longer open to argument. The people themselves are demanding such supervision as the most vital function of the public school system, so that no school can any longer claim a place in modern educational progress which ignores or neglects the health conditions of its pupils. If all parents were sufficiently wise in health matters, it would probably be unnecessary for schools to make any special study of the physical condition of the children entrusted to their care. But it is a fact, and not a theory, that not all nor even most parents are wise in matters pertaining to the health condition of their children. It becomes, therefore, the plain duty of the school department to furnish not only a healthy school environment but also a careful guardianship of the personal health of its pupils.

Medical supervision includes far more than inspection. It

means a health study in a broad sense of the pupils in the schools, with an attempt to adjust them to their physical environment. It means a study of the condition of sight, hearing, and examination for evidence of nasal obstruction, diseased tonsils, seriously defective teeth, disorders of nutrition and development, unbalanced nervous organism, for signs of early heart or lung disease, for enlarged glands, skin diseases, and symptoms of children's common contagious diseases. It means the careful physical study of school children, for it has been shown clearly that there is an intimate relation between the child's physical condition and its mental progress and future success.

Because of the manifold duties imposed upon the Bureau of Health, including its numerous hospitals and dispensaries, the medical supervision of school children can go much further than a mere inspection as to the state of health. In fact, the Bureau uses every inducement to have the school children of indigent families, of which there are many, come to the dispensary to have their ailments cured, and 50 per cent of these children take advantage of this opportunity. In a short time the Bureau will have established a dental clinic at the Philippine General Hospital for the purpose of caring for the teeth of school children and others who are unable to pay a dentist.

REGULATIONS GOVERNING THE METHOD OF INSPECTION OF SCHOOL CHILDREN.

1. It shall be the duty of the school physician to examine every student or pupil pursuing a course of study in any of the schools of Manila as soon as practicable after the beginning of the school year and as many times thereafter as is consistent with thorough work.

2. School physicians shall keep a card (Form 155-A) for every person examined, on which shall be entered necessary data relative to name, address, etc.; physical condition of the pupil; disposition of the case; and results of treatment.

3. Immediately after the last day of the fiscal year the school physician shall prepare a report for the Director of Health showing the number of pupils examined, diseases encountered, number receiving treatment, results of treatment, general benefit derived, and other pertinent data.

4. There shall be made to the Director of Health as soon as practicable after a school has been examined a report on Form 155-B, giving the diseases found among the pupils in such school and other data called for by that report.

5. If a pupil is found suffering with a condition or a disease not requiring exclusion from school, Form 155-C shall be filled in and sent to the parents or guardian, stating the facts in the case and recommending treatment by the family physician, or at a free dispensary if they are unable to pay

a physician. This form shall be in triplicate, one to be sent to the parents, one to be sent to the principal of the school, and the other to be retained by the school physician.

6. If the patient wishes to be treated at a free dispensary, this form (155-C) shall be taken to the school physician at the free dispensary, who shall give appropriate treatment and note on the back of the form the number of visits, nature of treatment, and the results, and file it with the station or dispensary records.

7. When the symptoms justify an investigation of the blood, sputum, stool or urine, specimens should be submitted to the Bureau of Science through the Bureau of Health for examination.

8. In examining pupils special attention should be paid to their mouths and instruction relative to the care of the teeth given. Pupils with defective teeth should be referred to the free dental clinic, Philippine General Hospital.

9. For the purpose of treating school children the school physician shall hold office hours from 2 to 4 p. m. every afternoon except Saturdays and Sundays at the different health stations alternately.

10. The municipal physician may, upon request, give the necessary treatment to a pupil of a school, and upon the termination of treatment shall fill out Form 155-C which accompanied the pupil, and forward it to the school physician.

11. If a pupil is found to be suffering from a communicable disease, Form 155-C shall be sent to the parents or guardian, stating the facts and also that the pupil will not be permitted to attend school until entirely cured. This form shall also be made in triplicate, one to be sent to the parents, one to be sent to the principal of the school and one to be retained by the school physician.

12. If a communicable disease requiring notification under chapter 78, sections 762 and 763, Revised Ordinances of Manila, is found, a report by telephone shall be made immediately to the proper health station, giving diagnosis, name and address, and the person suffering from such disease shall be excluded and shall not be allowed to return to school until permission is given by the school physician or other medical officer of the Bureau of Health. However, a certificate of the attending physician will be accepted if presented at a station of the Bureau of Health and there viséed. (Chap. 78, sec. 781, Revised Ordinance of Manila.) All pupils residing in the same house as the patient shall also be excluded from school. (Sec. 782, Revised Ordinances of Manila.)

13. Once a year it will be the duty of the school physician or other medical officer of the Bureau of Health to vaccinate all pupils attending school except such as show evidence of having had smallpox or of a successful vaccination the previous year.

14. It shall also be the duty of the school physician to report to the Bureau of Health all conditions of the school building needing attention from the standpoint of sanitation, such as lighting, ventilation, plumbing, overcrowding, desk facilities, water supply, drinking cups, etc.

15. An investigation of a school should include a careful observation of all caretakers of the school and of the teachers also when such investigations are made for the purpose of excluding dangerous communicable diseases.

SPECIAL REGULATIONS FOR COMMUNICABLE DISEASES.

16. All cases of smallpox or varioloid shall be reported to their respective health stations and the patients excluded and taken to San Lazaro Hospital, and all pupils of [illegible] shall be vaccinated immediately unless they can [illegible] having had smallpox or of a successful vaccination [illegible] year. The inmates of the houses in which such pupils [illegible] vaccinated and the necessary disinfection of the school and [illegible] made.

17. *Diphtheria.*—In the event of finding a [illegible] suffering from diphtheria, the health station shall be notified immediately and the patient be excluded from school and sent to San Lazaro Hospital for isolation and treatment. Swabbings must be taken from the throat of the classmates of the pupils, and if any bacillus carriers are found, they shall be also excluded from school and placed in San Lazaro Hospital. Pupils or teachers living in the same house as a diphtheria patient will not be permitted to attend school without a certificate from the school physician or other officer of the Bureau of Health.

18. *Varicella.*—Pupils suffering from varicella shall be excluded from school, and the medical inspector of the district notified.

19. *Measles.*—The health station shall be notified immediately of all cases of measles, the pupils excluded from school, disinfection of the schoolroom carried out, and all pupils and teachers living in the same house prohibited from attending school. It is pointed out that at its outset an epidemic of measles can frequently be checked by prompt isolation of the cases, closure of the schools, and observation of contacts.

20. *Mumps.*—In the event of a pupil suffering from mumps, the pupil shall be excluded from school and the health station immediately notified.

21. *Tuberculosis.*—A pupil suffering from active tuberculosis of the respiratory tract shall be excluded from school, the health station notified and the patient, if unable to employ a private physician, sent to a dispensary of the Antituberculosis Society or to some other free dispensary.

22. *To the principal of the school.*—Attention is called to the fact that the responsibility for detecting sickness among pupils does not rest entirely with the physician. It should be the duty of the principal of the school or of the school-teachers to observe each pupil, noting physical defects and skin eruptions; and if there is reason for believing that the child is not well, the school physician should be communicated with immediately. If there is reason to suspect that a pupil is suffering from a dangerous communicable disease, such pupil should be excluded from the school and the facts made known immediately to the health station for necessary action.

23. Emphasis is laid on the fact that backwardness in children is frequently due to physical defects, such as adenoids, enlarged tonsils, deafness, eye defects, etc., and the mental dullness displayed by certain children cannot always be blamed on inattention during class hours or neglect of study. It is therefore, highly important that the teachers observe whether there is not a possibility that such pupils may be ill or physically defective to such an extent as to account for the apparent lack of mental power.

The following blank forms are used to record the medical data in connection with the school inspections:

[Form No. 155-C in triplicate.]

FORM No. 155-C.

DEPARTMENT OF THE INTERIOR.
DEPARTAMENTO DE LO INTERIOR.
BUREAU OF HEALTH.
KÁGAWARAN NG SANÍDAD.

NOTIFICATION OF PHYSICAL CONDITION OF SCHOOL CHILDREN.
PATALASTAS NG KALAGAYAN NG KATAWAN NG MGA NAGSISIPAG-ARAL.

....., ..., ..., 191
(School.—Páaralán.) (Grade.—Grado.) (Date.—Kaarawán.)

To the PARENTS:
Sa mga magulang ó kamag-ának:

You are hereby notified that .....
Sa pamamagitan nito'y ipinatatalastas sa inyó na si (Name.—Pangalan.)

address ..... is suffering from .....
naninirahan sa ay dumaranas ng sakít na (Name of condition.—Pangalan ng sakít, atbpa.)

And should receive treatment from the family physician or at a free dispensary if unable to pay a physician.

At kinakailangang ipagamót sa inyóng sariling manggagamot ó sa mga pagamutang walang bayad, sakaling walang ikababayad sa manggagamot.

A communicable infectious disease, and shall, therefore, not be permitted to attend school until entirely cured. Other children in the same house shall not be permitted to attend school until further notice.

Na matinding makahawa (enfermedad infecciosa), dahil dito'y di pahihintulutang makapasok sa páaralán hanggáng sa ganáp na paggalíng ng sakít, at hindi rin pahihintulutang pumasok sa páaralán ang kasambahay na nagaaral, hanggáng sa muling pagpapatalastas.

A communicable disease, and shall, therefore, not be permitted to attend school until entirely cured. Treatment may be received at a free dispensary.

Na nakakahawa (enfermedad comunicable), dahil dito'y di pahihintulutang makapasok sa páaralán hanggáng sa paggalíng ng sakít. Makapagpagamót sa mga págamutang walang bayad.

.....
School Physician.
Manggagamot Páaralan.

Addresses of free dispensaries of Bureau of Health:
Kinaroroonan ng mga págamutang walang bayad ng Kágawarán ng Sanidad:

Philippine General Hospital, Taft Avenue, Ermita, 8–12 a. m. and 2–4 p. m.
Meisic, Cuartel Meisic, Binondo.....
Tondo, 256 Morlones, Tondo.....
Sampaloc, 15 Plaza Santa Ana, Quiapo.....
Paco, 610 Paz, Paco.....
Intramuros, 69 Victoria, Intramuros.....
Office hours, 2 to 4 p. m.
Mula sa 2 ng hapon hanggáng 4 ng hapon ang pagpapagamót.

There are other private free dispensaries in the city.
Mayron pang ibang pagamutang walang bayad dito sa Maynila.

If treatment required at a free dispensary, present this to the physician in charge.
Kung ang pagpapagamót ay kailangan sa págamutang walang bayad, ipakita itó sa manggagamot na namamahala.

To be filled in by physician giving treatment at free dispensary and filed at station.

Date of treatment.	Nature of treatment.	Results.

FORM No. 155 A.

School..... Grade .....

Name ..... Address .....

Sex ..... Nationality ..... Age .....

Date of examination.	Diagnosis.	Excluded.	Bureau of Health notified.	Referred to dispensary or physician.	Received treatment.	No treatment.	Results.

.....

(To be initialed by school physician.)

FORM No. 155B.

DEPARTMENT OF THE INTERIOR.

BUREAU OF HEALTH.

REPORT ON THE PHYSICAL DEFECTS IN SCHOOL CHILDREN.

Date ....., 191

..... School. Total number pupils examined .....

		Boys.	Girls.	Disposition of cases.					Total.
				Excluded.	Sent to dispensary.	No. treatment.	Refused treatment.	Health station notified.	
TO BE EXCLUDED.	Pertussis								
	Mumps								
	Tuberculosis								
	Measles								
	Contagious eye cases, except trachoma								
	Pediculosis with live pediculi								
	Scabies								
	Contagious skin cases								
	Favus								
	Other communicable infectious diseases								
NOT TO BE EXCLUDED.	Pediculosis, no live pediculi								
	Adenoids								
	Tonsils hypertrophied								
	Conjuntivitis, acute								
	Trachoma								
	Myopia								
	Other eye affections								
	Defects of hearing								
	Discharge from one ear								
	Discharge from both ears								
	Adenitis, tubercular								
	Tinea								
	Dental caries								
	Bodily deformities								
	Mental defects								
	Backward development								
	Other diseases								
	Number of vaccinations required								
	Number of vaccinations made								
	Total								

Examination of this school finished ....., 191

.....

Medical Inspector of Schools.

SOUTHERN ISLANDS HOSPITAL.

The Southern Islands Hospital was completed and ready for use during the month of January, but, unfortunately, the Legislature failed to provide for any personnel or funds with which to open it. It is very much to be regretted that this institution, which would be capable of relieving so much pain and suffering, and might save many lives, remains unused. The need for medical and surgical relief became so acute, however, during the month of June, that Acting Governor-General Gilbert authorized this Bureau to negotiate with the Railroad Company for the use of its hospital. The capacity of this institution is very limited, but everything possible is being done to afford relief to those who require it, so far as the facilities will permit.

The new Southern Islands Hospital has a capacity of sixty beds, and, with a very small outlay, could easily accommodate one hundred, if occasion therefor should arise. It is even more modern than the Philippine General Hospital in Manila, and represents the experience of the Bureau in designing a practical hospital that will best meet the needs of the conditions in the Philippines. The hospital is octagonal in shape, and, it is believed, represents one of the first instances where the difficulty heretofore met with in this design has been overcome, namely: the avoidance of dark, interior rooms, and poor ventilation. It will also be noted that the capacity of the wards can be increased by extending them, or by adding another story. This gives eight different ways of increasing the capacity of the hospital, and, at the same time, the construction work could be carried out without unduly interfering with the operation of the hospital. The design also provides for the greatest possible number of units. For instance, in spite of its small capacity, there is provision for the treatment, in separate wards or private rooms, of medical, surgical, gynecological, obstetrical, tuberculous, and children's diseases, as well as by sex and by the class of diet. There are, also, living quarters for a resident physician, a chief nurse and an assistant, male pupil nurses and female pupil nurses; an out-patient dispensary, pharmacy, general office, operating room, obstetrical delivery room, two dining rooms, kitchen, and store room. The accompanying plates show the first and second floor plans of the hospital.

LOWLANDS.

The fact that Manila is built on a low tidal flat, and that many areas or islands of this flat have gradually been raised well above the high tide level by elevating the streets and building

sites, has to a large extent, resulted in Manila's having undrained pools and low water areas throughout the various sections of the city. The remedying of this condition all at once is beyond the financial resources of the city. As mentioned in another portion of this report, much has been done toward relieving this condition by utilizing street sweepings for filling purposes. Some years ago an ordinance was passed which required all buildings to be elevated to at least ten centimeters above the established grade of the sidewalk. The operation of this ordinance has gradually aided in lifting many sections of Manila above the high tide level. During the year considerable filling was done with the material that was dredged from the esteros and canals.

Since the sanitary barrio idea, which was inaugurated by the Government several years ago, was so successful, several private concerns have engaged in the business of filling in lowlands and building thereon model workingmen's houses. All these different lines of activity are factors in gradually eliminating the lowlands in Manila, but it is believed that even greater progress would be made if the Honolulu system were adopted. In Honolulu, this consists of a reimbursable fund of $75,000. Wherever undesirable lowlands are encountered, an order to fill them is issued to the owner. If he fails to carry out the order within a reasonable period, the work is done by the Government and the cost of the same constitutes a lien against the property. Actual experience has shown that after the filling has been done the property is so desirable that the land is greatly enchanced in value, and the cost of making the fill is quickly restored to the Government. It is believed that a similar system would prove successful in Manila.

FREE DISPENSARIES.

The Bureau of Health maintains and operates a free dispensary at each of the five health stations in Manila; one at the San Lazaro Hospitals; one at the Philippine General Hospital, and it gives aid to the dispensary of the University Hospital, the Mary J. Johnston Hospital dispensary, the St. Paul's Hospital dispensary, and the San Juan de Dios Hospital dispensary, and to the dispensaries of the Anti-Tuberculosis Society, and, in addition, operates five dispensaries in the subprovinces of the Mountain Province, the Province of Agusan, the Batanes Islands and in Nueva Vizcaya. In addition, it also furnishes hundreds of boxes of well-assorted medicines and surgical dressings to be used by its own officers and employees, by missionaries, schoolteachers, and other persons who can be depended upon to extend

gratuitous relief to the poor. This latter service has grown to tremendous proportions, and the Bureau of Health medicine boxes are now found in the most remote sections of the Islands. The medical and surgical relief which has been extended by these dispensaries has been of almost incalculable value. Dangerous, communicable diseases are often found among persons who apply for relief, and through their early detection it is often possible to stop an outbreak. The confidence of the people is gained by the relief from suffering which is afforded them, and the health officers and others who use the medicines soon come to be on such close terms with the people that they invoke the aid of the sanitary official and his measures as soon as any dangerous, communicable disease makes its appearance.

The free dispensary of the Philippine General Hospital, in size, ranks among the principal clinics of the world. It has a surgical, genito-urinary, gynecological, obstetrical, pediatric, neurological, dermatological, dental, psychopathic, general medical, and eye, ear, nose, and throat departments, and patients are being treated there at the rate of 80,000 a year.

NEW WATER SUPPLY FOR CEBU.

Another public improvement which it is confidently hoped will result in a largely decreased death rate, was the completion of the new waterworks at Cebu during the early part of 1912. The new water system was formally opened by the Governor-General on February 17, in the presence of a large audience made up of prominent citizens from various parts of the Islands. The Cebu water system provides for a supply obtained from an uninhabited watershed. A dam has been constructed to impound 333,000,000 gallons of this water. A system of distributing pipes, throughout Cebu, has been installed. It is now imperatively necessary, however, that a sewer system be provided for carrying off the wastes which will so rapidly increase as the result of a piped water supply.

PUBLIC WATER SUPPLIES.

The campaign for better water supplies in the Philippines, which has been so persistently waged since American occupation, and more especially since 1905, is beginning to show marked results. When Spain relinquished authority over the Philippines, with the exception of the water system of the city of Manila, there was practically no water supply installation in the entire Archipelago. Water was obtained, either from surface wells, or simply dipped from the rivers as they flowed past the various

towns. The question as to whether the water was really safe and potable seemed seldom to have been gone into from a scientific standpoint, nor was the enormous amount of labor to be saved, and the convenience which would result by having it delivered by pipes, ever considered. For a number of years after American occupation, the apathy of the Filipino people toward the question of better water seemed almost impossible to overcome. By a campaign of education, persistently carried on, Filipino officials were gradually interested in the project, and through them, the masses of the Filipino people, with the result that, at present, a good water for domestic purposes is one of the leading public questions of the day in the Islands, and is one of the planks that form the platform of almost all Filipino candidates for public office.

With a few exceptions, the boring of artesian wells may be said to have begun in 1906, when the first well was bored at Mexico, Pampanga. The first few wells met with considerable opposition, and considerable superstition developed in connection with using water from sources with which the masses were unfamiliar, but this gradually disappeared as the better quality of the water became manifest, so that, during the past year, the Bureau of Public Works installed 143 wells, and the entire number, since the work was begun, is 680. The provinces, municipalities, and private individuals have probably installed an equal number, and it can be seen that the introduction of this form of water supply is now reaching large proportions. A decreasing mortality curve has followed in the wake of the artesian well. Some towns, where artesian well water is exclusively used, have shown a 50 per cent reduction in the mortality. As experience was gained with artesian wells, it was found that the geological conformation of many sections of the Islands was not favorable for them, and, therefore, the plan of impounding water from uninhabited watersheds, and distributing it through reservoirs and pipes, had to be considered. The gratifying reduction in the mortality from water-borne diseases which has followed the introduction in Manila of water from an uninhabited watershed, has encouraged considerably the movement to introduce this form of water supply into the Philippines in places where artesian wells cannot be used. At the present time there are at least 50 towns in the Islands that are considering the installation of water systems by impounding surface waters. The Bureau of Health has been very reluctant to encourage the use of surface waters, even when they come from an uninhabited watershed, because the question whether the amœbæ

which are found in all surface waters in the Philippines that are not either thermal or strictly chemical, are pathogenic or nonpathogenic, has not been satisfactorily determined. It is encouraging to note, however, that as the studies in this matter proceed, it seems more and more possible that amœbæ may be roughly divided into two kinds: (1) The harmless variety which is found in all surface waters, and (2) the pathogenic variety, only found in water, or on vegetables and other substances that have come there directly or indirectly through the means of stools from cases of dysentery. Similar conclusions have been reached in Panama, and the use of surface water there, from uninhabited watersheds, has apparently, resulted successfully. At Cebu, a water supply of the kind was finished and opened for service on February 17, and if a reduction in the death rate from water-borne diseases results, the use of similar systems in other parts of the Islands would be fully justified.

The extraordinary development in connection with the installation of better water supplies in the Philippines, is an excellent concrete example of what may be accomplished, when officers of all classes work harmoniously together for the purpose of obtaining a result. In the case of water installations, everyone, from the Governor-General to the lowest official, took occasion, when opportunity afforded, to encourage the use of better water. The constantly decreasing death rate where it has been introduced, is an excellent monument to their efforts.

POISONOUS SNAKES.

The popular impression that there are no poisonous snakes in the Philippine Islands was not confirmed by the investigation which was made by District Health Officer A. Catanjal, who was detailed to make an investigation of this matter. The following is abstracted from his report:

During the fiscal year ended June 30, 1909, 86 persons are reported to have died in the Philippines as the result of snake bites. The deaths are distributed by provinces, as follows: Cagayan, 3; Isabela, 1; Ilocos Norte, 18; Ilocos Sur, 5; La Union, 2; Pangasinan, 16; Nueva Ecija, 6; Tarlac, 6; Laguna, 3; Batangas, 13; Albay, 9; Bohol, 2; Misamis, 1.

It will be noticed that the more thickly populated provinces report the greatest number of deaths. Possibly this is due to it being possible for municipal officers in these provinces to secure more accurate vital statistics than in the less populous ones. Based on the census of 1903 of the population of the above provinces, the rate of deaths due to snake bites is 3.14 per cent for each 100,000 inhabitants. The list of native names given in the report shows how difficult it is to secure accurate information from local sources regarding the kinds of poisonous snakes in the Islands. The same

species has a number of different names, and a description from which the species could be surely recognized was obtained in only a few instances. Nevertheless it is interesting to note that under different names, the cobras are recognized as responsible for the majority of deaths in these provinces.

Deaths by poisonous snakes.

Provinces.	Alumag-iu.	Alupung.	Camámalu.	Carasaen.	Jaguason.	Rimuranon.	Tadioco.	Ulupung.	Unknown.	Total.
Albay						9				9
Ambos Camarines						1				1
Batangas									13	13
Bohol									2	2
Cagayan	1								2	3
Ilocos Norte				8					10	18
Ilocos Sur									5	5
Isabela									1	1
Laguna									3	3
La Union				2						2
Misamis					1					1
Nueva Ecija								6		6
Pangasinan				5			4		7	16
Tarlac		1	2	2					1	6
Total	1	1	2	17	1	10	4	6	44	86

The alumag-iu cannot be recognized; alupung is evidently *Trimeresurus nagleri*, a crotalid snake; camámalu, carasaen, jaguason, tadioco, and ulupung are, without doubt, different names for the cobra. From the description of rimuranon it is difficult to decide whether the species is a cobra or *Hemibungarus calligaster*, a small snake very closely related to the deadly krait of India. It is interesting to note that not a single death is directly ascribed to the bite of the so-called rice-snake, palaspas, commonly called in the Tagalog provinces by the name of dahun palay. It is probable that, if full reports of the deaths caused by snake bites could be obtained in all provinces of the Philippines, the number of deaths known to be due to that cause annually would be very considerably increased. Most of the poisonous snakes cannot be surely distinguished by any readily seen external character.

The treatment of snake bites as given in various localities consists of ligatures near the wound, of suction applied by means of horns, cupping glasses, or so-called snake stones, of cauterization by hot iron or acids, of massage, sweating, and of the internal use of *Strychnus philippinensis*, *Ignatia amarra*, many species of Piper, and of *Aristolochia indica* and Serpentaria. Liquor is used in great amount, with the belief that if drunk to the point of intoxication, it will protect the person from the effects of the poison.

Recent studies of snake venoms and their physiological action have proved that the only procedure of any value in cases of snake bite is the following:

1. Immediate free incision of the wound.

2. Effective ligature of the bitten member central to the wound.

3. Cauterization, preferably by the rubbing in of potassium permanganate.

Liquors and cardiac stimulants should *never* be used.

BACILLARY DYSENTERY.

Outbreaks of bacillary dysentery have been reported in the Philippine Islands from time to time. Two years ago a severe outbreak occurred in the Province of Iloilo among the residents of Barotac, due to the river, from which the drinking water was obtained, becoming infected immediately above the town. Smaller outbreaks have occurred in Batangas and other parts of the Islands, and outbreaks have also been reported from Paracale and Goa in the Camarines and cases of bloody diarrhœa, with deaths, in other portions of the Islands, were probably due to bacillary dysentery. Investigation has also shown that the disease prevailed in some of the Igorot towns from which the labor supply for the new railroad was drawn, and that the disease was, in all probability introduced into Baguio from them. Soon after the Government Bureaus were transferred to Baguio, during the latter part of February, outbreaks of diarrhœa were reported. An investigation showed that approximately 10 per cent of the employees were affected. At first there was a disposition to attribute the diarrhœa to the altitude, and lower temperature which prevails at Baguio, but an investigation of the matter showed that the disease prevailed among the permanent residents to the same extent as among the new arrivals. The laboratory results, obtained later by the Bureau of Science, showed that bacillary dysentery was undoubtedly present. It is extremely likely that, with the veritable pest of flies which prevailed in Baguio, and the careless habits of domestic servants in not properly cleansing their hands, in association with the lax methods of disposing of human excreta, the conditions were very favorable for the spread of the disease. An appropriation of ₱10,000 was made for improving sanitary conditions. With this money three crematories are being built, and immediate steps taken to collect and burn all horse manure and other material likely to breed flies. Greater cleanliness among domestic servants was insisted upon. The daily collection of night-soil and garbage was instituted. Soon after these measures were put into effect, a rapid decline in the number of cases of dysentery took place.

It is estimated that among the employees of the Government Bureaus there were 65 cases, with 2 deaths of children. Among the general population, estimated at 1,000, there were probably 100 cases, of which 5 died.

BERIBERI.

During the fiscal year just closed there were 1,206 deaths from beriberi in Manila, which is 274 less than occurred during

the preceding fiscal year. While this improvement is gratifying, it is still greatly to be regretted that the public did not enjoy the same benefits that were derived in public institutions through the use of unpolished rice. In the latter places not one death from beriberi occurred where unpolished rice was continuously used. It is estimated that in public institutions there were formerly at least 600 deaths annually from beriberi. For the two years following the time that the use of unpolished rice was made compulsory there were practically no deaths from this disease and the beriberi only reappeared when the use of polished rice was again begun. Among the general population there are at least 5,000 deaths each year from beriberi throughout the Islands. There is also reason to believe that up to the present fiscal year, there has been a steady increase in the number of cases of this disease.

In 1907 there were reported, in Manila, 407 deaths from beriberi, whereas, in 1911, there were 1,480 deaths. Allowing a reasonable percentage for errors in diagnosis, and making allowances for the fact that there has been, probably, more attention given to beriberi on account of the amount of discussion which has taken place in the past few years upon the etiology of this disease, there still remain a large number of deaths which require explanation. The Filipino, as well as the Chinaman, Malay, and the people of Japan, are very fond of highly polished rice. In view of the gradual increase which has taken place in the wages of the Filipino laborer, it has been possible for him to purchase a higher priced variety (which, in other words, means a more highly polished rice) than was possible formerly, so that it appears not unreasonable to infer that the steady increase in the number of cases of beriberi has been directly due to the increased consumption of polished rice in the Philippine Islands. The increase in beriberi up to 1911 may perhaps, be further explained on the basis that during the past few years, owing to the failure of the crops in the Philippines, large quantities of rice have been imported, and this has been almost invariably of the polished variety. The reduction in the number of cases during the present year may perhaps be accounted for in part by the educational campaign to discourage the use of polished rice as a staple article of diet which has been so persistently carried out. Another factor is the change from rice to other food on account of the very high cost of rice which has prevailed. For instance there has been a considerable increase in bread consumption.

Further evidence that beriberi is associated with the consump-

tion of polished rice was afforded by the experience at the Culion leper colony. Owing to the great shortage in the rice market it became necessary, during November, to accept rice of the polished variety for use at the colony. During the four months immediately preceding January, 1912, the average number of deaths occurring among approximately 2,500 inmates of the colony was 28. During January the death rate commenced to increase, and by March it had reached 92 per month, or an increase of over 300 per cent above the expected normal number of deaths. As soon as an increase in the death rate was observed, during the latter part of February, large quantities of mongoes and other foods which were believed to contain the beriberi preventing principle were used with the white rice, and, about the middle of March, the use of undermilled rice, containing at least four-tenths of 1 per cent of phosphorus pentoxide was begun and has been continued to date. During the latter part of March a decrease in the number of deaths began to take place, and during April the total deaths for the colony had again fallen to 25 per month. During May the population was increased to 2,600 and the number of deaths was 29. From the foregoing, then, it is apparent that after polished rice was used during November, December, and January, there was a great increase in the number of deaths during February and March, and the number of deaths began rapidly to decrease when mongoes and unpolished rice were again used by the inmates of the colony.

In view of the fact that there was a disposition to regard the former executive order with regard to the use of unpolished rice as optional, and after a number of outbreaks of beriberi had occurred in surveying parties, prisons, and aboard Government vessels, the following executive order was issued and is now being enforced:

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU.

BAGUIO, *April 26, 1912.*

EXECUTIVE ORDER
No. 24.

Executive Order Numbered Thirty-seven, series of nineteen hundred and ten, is hereby amended to read as follows:

"In view of the fact that the Director of Health has reported to the undersigned that for some years past considerable evidence has become available that beriberi is associated with the continuous consumption of white (polished) rice as a staple article of diet, and that at the recent meeting of the Far Eastern Association of Tropical Medicine, which was held in Hongkong during January, nineteen hundred and twelve, this view has received further and more complete confirmation by investigators in Japan, China, French Indo-China, Siam, Netherlands India, the Straits

Settlements, and the Federated Malay States, and, in view of the further fact that the incidence of beriberi has been markedly reduced in Philippine Government institutions where unpolished rice has been used exclusively, the use of polished rice in all public institutions, or by any employee or person who is furnished rice by the Government, is hereby forbidden.

"All Insular, provincial, and municipal officials having control of public institutions, such as workshops, prisons, vessels, and so forth, and all employees and persons in charge of field parties, and so forth, to whom rice is furnished by the Government, are hereby directed to see that the provisions of this Executive Order are complied within the institutions and by employees under their control.

"Any rice which contains less than four-tenths of one per centum of phosphorus pentoxide shall be regarded as polished rice.

"Whenever it is impossible to obtain unpolished rice, polished rice may be used, provided that an equal amount of mongoes is used instead of rice on alternate days. In such case, the official responsible for issuing the rice must satisfy himself that the mongoes are actually used instead of rice.

"Whenever in exceptional cases it is impossible to obtain unpolished rice or mongoes, polished rice may be used. In such cases, provided that tiki tiki or an extract therefrom can be obtained, it shall be given with such rice under the directions of a physician. In any case where polished rice is used a report thereof shall be made immediately to the Director of Health, giving reasons therefor and the circumstances under which it was used."

NEWTON W. GILBERT,
Acting Governor-General.

CHOLERA.

During the latter part of the year there was a small outbreak of cholera in the Province of La Union. Sanitary measures were promptly applied through the district health officer and the outbreak came to an abrupt termination.

The most interesting observations which have been made in regard to cholera within the last year have been concerned with cholera carriers. In the month of July there was found dead in the district of Santa Cruz, Manila, a body with evidence pointing toward cholera as the cause of death. The body was sent to San Lazaro, a post-mortem was performed, and bacteriological investigations made, all of which proved the case to be one of cholera. Inasmuch as it was the first case to be discovered in the city and as there had been none in the city for some time, all contacts, of which there were seven, were taken to San Lazaro Hospital for observation and a bacteriological examination made of their stools, with the result that all seven were found to be harboring the cholera vibrio and therefore a menace to the public health. They were quarantined until the vibrios disappeared from their stools. Not one developed cholera. Whether these cases were infected from the actual case of cholera, or whether the case was infected from a cholera carrier cannot be proved, but it is unquestionably a fact that by

quarantining these seven cholera carriers, seven foci of infection were removed which might have been instrumental in starting an epidemic.

In January a case, presumably of cholera, with contacts, was taken from the same house to San Lazaro Hospital. This case did not die and all bacteriological investigation was negative.

Even more interesting from the standpoint of the health of the Philippine Islands is the fact that a routine examination made of the stools of immigrants detained at the Mariveles quarantine station has disclosed the presence of one cholera carrier from Canton, a Chinese. The Bureau has somewhat leaned to the theory that at least some outbreaks of cholera in the last ten years in the Islands have not necessarily come from carriers or infection from within, but have at times come from a carrier introduced from the outside, such as an immigrant from Canton or Japan where cholera was known to exist, and the finding of such a carrier in a Chinese immigrant from Canton who had not had the opportunity to become infected in the Philippine Islands proved the point almost conclusively and justifies the making of a routine bacteriological examination of all immigrants coming from cholera infected ports as a valuable quarantine measure.

THE DIARRHŒA OF BAGUIO. (Hill Diarrhœa)

The medical profession owes a large debt of gratitude to the members of the Army Board for the Study of Tropical Diseases, and to the Bureau of Science, for placing the etiology of the diarrhœa at Baguio, which has been so obscure heretofore, upon a scientific basis. In the past, many practitioners have been inclined to place the diarrhœas of Baguio in the category of the so-called "hill diarrhœa," or "mountain diarrhœa," or, to acute intestinal disturbances due to sudden changes in climate. Other practitioners were of the opinion that the diarrhœa was due to the sudden chilling, owing to the low temperature, and to disturbances of blood pressure, owing to the altitude of Baguio, which is about 5,000 feet, and by failure to provide proper protection for the abdomen. All of these reasons were very unsatisfactory, and, from an epidemiological standpoint, were not susceptible to reason. For instance, when some 600 Government employees were transferred to Baguio during the latter part of February, 10 per cent of them were afflicted with diarrhœa soon after their arrival, but investigation showed that this disease prevailed to an even greater extent among the

permanent residents, so that the sudden change to lower temperature and higher altitude could scarcely account for the diarrhœa among the new arrivals. Owing to the very general use of distilled water, the water-transmission theory of the disease could also be excluded with reasonable certainty. A sanitary inspection made of Baguio showed that the town was being developed at the expense of sanitation, and that the advice of medical men, as contained in the sanitary ordinances of the town, was not being observed. The sanitation of the railway laborers' camps was defective. There was no proper disposal of the garbage of many of the houses. Horse manure was allowed to accumulate in heaps almost everywhere. The septic tank capacity was so small that instead of the water remaining in them for at least thirty-six hours, which is deemed necessary for a reasonable amount of biological action, some of it flowed through in less than four hours. As another source of infection it was shown that many of the servants had been washing dishes in the overflow from septic tanks. A careful examination made of the stools of the sick showed that they were suffering from bacillary dysentery. With the veritable myriad of flies which were bred as the result of the conditions outlined above, the opportunities that were present for the transmission of the disease by the hands, through the septic tanks, and other insanitary conditions, will at once be apparent. As soon as these were corrected, the bacillary dysentery decreased in direct proportion as the insanitary conditions were removed. In conclusion, then, it may be said that the diarrhœa at Baguio was not a strange, mysterious unknown disease, but one that was plainly due to the insanitary conditions which had been created.

DIPHTHERIA IN MANILA.

According to the reports of the Bureau of Health, diphtheria is increasing in Manila. A few cases were also reported from the provinces during the first half year covered by this report.

Cases are reported as follows:

Fiscal years.	Cases.	Deaths.	Fiscal years.	Cases.	Deaths.
1900	1	1	1907	15	13
1901	0	0	1908	18	9
1902	4	4	1909	7	0
1903	2	2	1910	28	10
1904	4	4	1911	25	[a]18
1905	7	7	1912	49	17
1906	8	8			

[a] Including croup, 1.

It will be seen that there is almost a steady increase in the number of cases and deaths reported.

In addition to this, there have been 24 diphtheria bacillus carriers. As the Bureau of Health looks upon these carriers as much more dangerous in the spread of infection than a frank case of diphtheria would be, all carriers are isolated in the San Lazaro Hospital and kept there until the bacilli disappear as shown by two successive negative findings. Diphtheria cases are kept in San Lazaro Hospital until not only the clinical symptoms have disappeared but until the bacilli have entirely disappeared as well, as shown by two successive negative cultures.

The longest time that the bacilli have remained in the throat of any diphtheria patient in the San Lazaro Hospital has been twenty-eight days from the time of disappearance of clinical symptoms. The longest time that any carrier has harbored the bacilli after being admitted into the hospital was eighteen days.

All cases of diphtheria are treated with antitoxin. Notwithstanding this, the mortality is too high, due to the fact that so many of these cases from the indigent, ignorant people are only seen by the doctor in the very last stages of the disease.

In order to combat this disease the following instructions were issued in guidance of the medical officers of the Bureau of Health:

1. If the condition is suspicious of being diphtheria, swabbings shall be taken immediately from the throat and sent to the Bureau of Science for examination. If the bacteriological report is positive, the case shall immediately be sent to San Lazaro.

2. Swabbings shall be taken from the throats of all contacts of positive diphtheria cases and sent to the Bureau of Science for examination. If the report upon any contact comes back positive, that contact shall be sent to San Lazaro for isolation.

3. Any contact desirous of receiving a prophylactic dose of antitoxin may be sent to San Lazaro, where the treatment will be given.

4. Persons are to be sent to San Lazaro only when they have diphtheria; when the bacilli have been found in the throats of apparently healthy persons (bacillus carriers), or when they desire to take a prophylactic dose of antitoxin.

5. In every case in which diphtheria is discovered in a child, the school history of such child shall be carefully investigated, and, if necessary, cultures taken from the throats of the pupils who have been in the same room with the patient, or other close contacts.

6. Inmates of houses in which a case of diphtheria has been found, even though they are not proven to be bacillus carriers, shall be inspected from time to time until the period of incubation has terminated, or for seven days from the time the house was disinfected.

7. Hereafter, swabs for making cultures will be obtained from the Bureau of Health. Each swab will be furnished in a sealed, sterile test-tube, without any culture-media. After swabbing the throat the swab must be

immediately placed in the sterile test-tube, the cotton plug inserted, and without delay sent to the Bureau of Science where the necessary culture will be made.

In the event that tubes with culture-media are used, care must be taken thoroughly to spread the material on the swab over the surface of the media. Do not break the surface of the media in any way. Do not allow the swab to touch anything but the throat of the patient and the surface of the culture media. The swab must be thoroughly sterilized before it is discarded.

8. Attention is called to the fact that domestic animals, especially the cat, have been found to harbor diphtheria bacilli in their throats, and, therefore, special investigation along this line is suggested.

9. Cases of diphtheria or bacillus carriers shall be held in San Lazaro until two negative bacteriological findings, on separate days, are reported from the Bureau of Science.

10. Immediately after the removal of a case of diphtheria or a bacillus carrier the room or rooms in which the person has lived shall be disinfected, together with all articles liable to have been contaminated by the secretions from the patient's throat or nose.

11. For every case of diphtheria, and for each bacillus carrier, a blank Bureau of Health form shall be filled out with the information required thereon, and as soon as practicable it shall be transmitted to the Chief, San Lazaro Hospitals division, who will fill in his part and send it to the Bureau of Health. This form shall be in addition to the transfer slip which is now required for each case of dangerous communicable disease.

GANGOSA.

The few cases which were encountered during the year, which had symptoms similar to those ascribed to gangosa, a disease reported, in former years, from Guam proved in each case to be a manifestation of syphilis. This further confirmed the view expressed in previous annual reports of this Bureau that this disease had not been found in the Philippines.

GOITER.

During the year information was received that there were many cases of goiter at Peñaranda, Nueva Ecija. Investigation of this matter showed that there were 43 cases. The population of Peñaranda is 8,410. The youngest case encountered was 16 years of age, in a male, and there were only four other cases under 30 years of age. The oldest recorded case was 51 years. At the time of the closing of the report an investigation of the disease is being made which includes an examination of the water supply of the town.

HOOKWORM.

Nothing transpired, during the year, which would tend to show that this disease is as serious here as it has proven to be in Porto Rico and elsewhere. In view of this fact, and, on account of the

limited personnel available, the energies of the Bureau have been largely diverted from hookworm to other spheres in which more certain results in improving the health can be obtained. Doctor Willets, of the Bureau of Science, did, however, examine about 400 persons in the Batanes Islands, and found that 26 per cent of them had hookworm, but he did not trace any very definite clinical effects to the presence of the disease.

INSANITY.

For the last fiscal year, there were reported 3,748 insane persons in the Philippine Islands, whereas, for this fiscal year, only 3,543 are reported. An analysis of the figures shows that there has been an almost uniform reduction in the number of cases throughout the provinces. An examination of the figures for the past seven years shows that the average number of insane persons in the Philippines remains remarkably uniform.

LEPROSY.

Probably one of the most satisfactory things to record for the year in connection with leprosy is the rapidly changing attitude with regard to isolation that is taking place among persons who are afflicted with this disease. This has resulted in many cases coming under observation during the past year that are in the incipient stage of the disease. The system for collecting lepers is apparently proving effective and to encounter cases in the advanced stage of the disease is becoming more and more rare. The total number of lepers at the Culion leper colony at the close of the year was 2,615, at the close of the last fiscal year it was 2,373. During the year 855 lepers were taken to Culion and 531 died. The uncorrected mortality was 218 per thousand.

More and more evidence is becoming available to show that leprosy has many of the characteristics of a house disease. It now frequently happens that new cases of leprosy are found in houses or families from which cases were taken several years ago. Statistics have been collected along these lines and will shortly be made the subject of a special paper which will be published in one of the medical journals.

The total number of lepers collected since the work was begun in 1906 is 6,695; of these over 3,000 were collected from the Island of Cebu. When it is remembered that the population of this island, as given by the last census was, in round numbers, 700,000, and that the total population of the Philippine Islands was approximately 7,000,000, it will be apparent that, while Cebu has only one-tenth of the population of the Philippine Islands, yet it has furnished about one-half of the number of

victims of this disease. It is believed that, if sufficient funds and men were available, much information with regard to the etiology of the disease might be gained by the study of leprosy among the people of Çebu. It is also interesting to observe that the percentage of new cases which occur in Cebu bears about the same relation to the disease in other parts of the Philippines as the original number of lepers bore to those in other parts of the Philippines. In other words the incidence of the disease remains much greater than in any other province.

It may also be of interest to observe that the nose still continues to be the site where leper bacilli can be detected with the greatest frequency and certainty. It may also not be out of place to mention here that other observers have reported that they have had no success in finding leper bacilli in nasal secretions and that specimens from above the eyebrow and other places yielded more certain results. In this connection it is pointed out that this Bureau has never made any statement with regard to the frequency with which leper bacilli can be encountered in nasal secretions. The method used is to make an actual scraping or scarification of the septum of the nose near the junction of the cartilaginous and membranous portion, and to have the resulting serum slightly mixed with the blood drawn from the scarification. In the experience had in making over 6,000 microscopical examinations this method more frequently yields leper bacilli than material taken from other portions of the surface of the body.

Analysis of the ages of 2,556 lepers confined at Culion leper colony shows most interesting results. The youngest cases on hand are three lepers 3 years of age. Then the number gradually increases to the age of 17, at which age there are 63; the number of cases between the seventeenth and eighteenth year almost doubles itself, the number of lepers 18 years of age being 106. The largest number, 139, occurs at 21 years of age, and after the twenty-fourth year, at which age there are 102 lepers, the number gradually declines until the one hundred-first year at which there is one leper. Briefly then, in the seven years which intervene between 17 and 25 years, there are 775 lepers, or almost one-third of the total number. From these figures it is evident that the preponderance in the numbers of cases occurs during early manhood and early womanhood. As to the sexes, the proportions that were recorded during the early years among lepers in the Philippines, still holds remarkably true. Of the total number 1,629 are male and 927 are females, so that approximately one-third of the lepers are women and two-thirds men.

TREATMENT.

More and more evidence is constantly coming to light that persons afflicted with leprosy who can take chaulmoogra oil continually over long periods of time, that is, at least six months, are greatly benefited thereby and in some instances apparently cured.

Their willingness or ability to continue taking the oil after the symptoms disappear is at least one important factor in the attempt to make the cure permanent. Unfortunately very few persons are able to take the oil by the mouth on account of the nausea which it produces. In order to overcome this objection, inunctions, enemas, hypodermoclysis, coated capsules which only dissolve after reaching the intestine, and other methods have all been tried, without great success. At one time during the year a specially prepared oil used by the hypodermic method offered some hope. This method is now undergoing investigation but at the time of closing this report it had not proceeded sufficiently far to warrant making a statement.

What is urgently needed is a research fund of at least ₱100,000 in order to make a special study of the treatment of leprosy. The results which this Bureau has already obtained are very encouraging and the work should be continued along scientific lines.

It is a noteworthy fact that, after the admission of patients, the great majority, without any special treatment other than good food, well ventilated sleeping quarters, and other hygienic requisites, improve very much. In mild cases the outward manifestations of the disease often disappear, and it is only by microscopical means that the disease can be proved to exist.

MALARIAL FEVER.

Certain sections of the Philippines, as, for instance, parts of Mindoro, Palawan, and Guimaras, continue to be centers for a pernicious type of malarial fever. Malaria prevails very generally, however, throughout the Philippines, as may be seen by the deaths recorded in the statistical tables. There are, on the other hand, many places where the disease does not occur. For a number of years now, it has been impossible to trace any cases to Manila or Cebu. Under the head of "Quinine and Malaria," in another portion of this report, there is discussed the effect of the million doses of quinine which were gratuitously distributed with the hope of reducing the ravages of this disease. The total number of deaths reported from malaria in twenty-nine of the provinces of the Philippines, was 24,339. At best, how-

ever, these statistics are very unreliable, deaths being frequently attributed to malarial fever which were due to other causes, and vice versa, no doubt many deaths occurred which were not charged to malarial fever.

What may be done in connection with combating this disease is, perhaps, best shown by the experience had at the Iwahig penal colony. Only a few years ago, from a malarial standpoint, this was one of the most dangerous places in the Philippine Islands. With a very moderate outlay, such antimalarial measures as draining, filling, oiling, the use of mosquito nets, and quinine used prophylactically, were carried out, and now the mortality will compare favorably with the most salubrious places in the Philippines.

The very extensive outbreak of malarial fever which has occurred among the employees of the companies engaged in the production of sugar on the San Jose Estate and vicinity, in Mindoro, has given this Bureau grave concern, especially as there has been a marked disinclination on the part of some of those who are responsible to carry out even simple sanitary measures. This condition not only threatens the success of the sugar project because it will become increasingly difficult to fill the places of those who fall by disease, but, in addition, those who have contracted the fever are found in increasing number in Manila hospitals, and what is more serious, such laborers are infecting sections of the provinces which have heretofore remained free from malaria.

During the coming year active steps will be taken, in so far as municipal, provincial and Insular appropriations will permit, to obliterate malarial mosquito breeding places, to distribute large quantities of quinine, and to carry on an extensive campaign of education with regard to antimalarial measures. Experiments are being conducted in the town of Mariveles in order to ascertain definitely what measures are necessary, and the cost thereof, for ridding a small Philippine town of malarial fever. In the vicinity of Camp Stotsenberg, in Pampanga Province, Army medical officers are rendering considerable aid to the local officials in combating malarial fever which exists among the inhabitants of the vicinity. The statistics from these two places will probably afford data which will be useful in extending malarial work in the future.

MEASLES.

The measles outbreak which began in Manila during the middle of 1911, was, in all probability, introduced by passengers on trans-

ports from the United States, and continued to spread until May, reaching as far north as the Batanes, and as far south as Siquijor. During the first quarter of this year the number of cases grew so large that the capacity of the San Lazaro Hospitals was no longer sufficient to provide for the isolation of the cases, and this had then necessarily to be done in the homes of the sick persons. The character of the disease was much more severe than the measles ordinarily encountered in the Philippine Islands, and this adds additional confirmation to the view that a fresh strain of the measles was imported. The type of measles ordinarily encountered in the Philippine Islands corresponds very closely to that which prevails in the United States, the exception being that all the symptoms are very much milder, and the coryza and catarrhal symptoms so very mild as frequently to be unobserved. So far as known, there is, also, practically no mortality from the disease. Among the measles that have prevailed during the year, of 534 cases, 23 died, which shows the disease to be of a more severe type than ordinarily prevails here.

PELLAGRA.

Since the suspicious cases reported in the Province of Isabela by Doctor Willets, a few years ago, no further cases of pellagra have come to the notice of the Bureau. Cebu is the province in which the cultivation of corn is most extensively carried on, and it forms, throughout the entire year, the staple article of diet of many of the poorer class. District Health Officer Pond, of Cebu, has, during the past three years, been diligently searching for cases that resemble pellagra, but so far, without success.

PLAGUE.

After an absence of six years in human beings and five years among rats, plague was again found in the Philippine Islands, on June 19. A Filipino employed as a watchman at No. 235 Calle San Jacinto, in the Chinese district, who resided at No. 920 Calle Antonio Rivera, was found dead at his home, on the date mentioned above after an illness of about three days. On post-mortem examination, typical plague buboes were found in the right groin and axilla. Smears made from the spleen showed Gram negative, bi-polar staining organisms, and inoculations made into guinea pigs resulted in typical attacks of plague. The organism which was recovered from the guinea pigs agglutinated plague serum in high dilutions. The source of the infection is unknown. The nearest known focus of plague is at Hongkong, and there is no evidence to show that this man had been out of

the country during the past few years. Test examinations of rats caught in the different districts of Manila, particularly those from importers' warehouses, have been made at weekly intervals throughout the year since 1907 and have always proven negative.

Houses in the vicinity of which the man resided, and where he worked, showed evidences of rat infestation, but an examination made of many hundreds of rats that were caught there failed to reveal any plague infection, nor was there any history of unusual rat mortality having occurred anywhere in Manila.

The second death occurred on June 26, in the person of a Filipino woman, aged 44 years, at 1615 Calle Azcarraga, near the Arranque Market. She was found alive, in her house, and had been ill for three days. At the time she was transferred to the San Lazaro Plague Hospital, she had a temperature of 41° C. and was in a dying condition. The autopsy showed slightly enlarged glands of the left groin, but the other usual autopsy findings of plague were conspicuous by their absence. Smear preparations made from the glands of the groin and from sections of the spleen, showed Gram negative, bi-polar staining bacilli. Inoculations made into guinea pigs produced typical attacks of plague, and the recovered organisms agglutinated with plague serum. This woman, from reliable evidence, had also not been out of the Philippine Islands during the past few years. At a near-by food store where the woman is known to have purchased her food supply, four dead rats were found. These were taken to the Bureau of Science for diagnosis, but the post-mortem and inoculation experiments have proven negative.

The mortality rate for the city is rather below the normal, from which fact it may be inferred that no unrecognized cases are occurring. Three rat-catching gangs have been put to work with the object of catching as many rats as possible in the vicinities of which the patients died, and from other sections which are considered suspicious. So far, all of the rats found have proven negative. From the foregoing, it is evident that there are no reliable data with regard to the origin of the disease.

From our present knowledge it would seem most likely that the disease must have been introduced by infected fleas, although, in view of the recent cases reported by McCoy in Hawaii, and by observers in India, food infection should not be completely disregarded. If the disease was introduced by infected fleas, it would seem most likely that they reached here on sick rats which came in cargo, like crates of onions, potatoes, baskets of eggs, garlic, soy, or similar foodstuffs which arrive almost daily, in large quantities, from China, Japan, and other plague-

infected countries. Rats have actually been observed in such cargo, and it would not be at all impossible for an infected rat to have been introduced in this way. The officers of the Public Health and Marine-Hospital Service, located in Hongkong and in Manila, have long since recognized the danger of introducing plague in this way, but up to the present time it has been impossible to devise a practical method for entirely eliminating the danger from the introduction of rats in this manner without placing prohibitive restrictions upon commerce. The theory of the introduction of the plague by means of food is slightly supported by the fact that, at the autopsy of the first case, ulcerated tonsils were found, but as no cultures were taken, it is impossible to submit anything definite under this head.

RABIES.

One case of human rabies has occurred in Manila during the year. In this case the disease had a period of incubation of forty days, with pronounced symptoms of rabies followed by death, and absence of lesions to account for death at the postmortem. Negri bodies were demonstrated, proving the case to be rabies from the bacteriological standpoint.

One other case of human rabies was reported from the Province of Pampanga but no laboratory investigations were made.

A number of requests for treatments have been received during the year and furnished from the Pasteur laboratory of the Bureau of Science. These treatments are sent, with full instructions, to the presidents of the municipal boards of health, who usually administer the inoculations.

One of these cases receiving treatment in the Province of Ambos Camarines died of rabies shortly after it was finished.

SMALLPOX AND VARIOLOID.

The effect of the very extensive vaccination which has been carried out steadily since the establishment of a health service in the Philippine Islands is becoming more and more apparent; for instance, in the city of Manila there have been no deaths from smallpox since 1909. When this is contrasted with the thousands of deaths that took place annually prior to vaccination, it will be seen that this affords concrete proof of the boon that Jenner's discovery has conferred upon mankind. There were in Manila during the year 393 males and 207 females who contracted varioloid. Among these not one death occurred. It is also interesting to observe that no American and no Chinaman

contracted varioloid. The immunity enjoyed by the Chinese is no doubt due to the fact that the United States quarantine laws and regulations provide for their vaccination upon entrance into the Philippine Islands, so that there is an opportunity to carry out vaccination very thoroughly among them.

In some provinces, notably in Cebu, Oriental and Occidental Negros, and others there were some deaths from smallpox. Upon investigation, however, it was found that these almost invariably occurred among children who had been born since the last systematic vaccination of the province in which they resided had taken place. In other words, the local officials who are supposed to vaccinate during January and July of each year those children who are born in the interim and such other persons as may come into the province without being vaccinated, failed to carry out their duties. An analysis of the figures shows that the cases practically all took place among young children who had not been vaccinated.

During the year it was necessary to aid the following provinces and districts by furnishing Insular vaccinators: Iloilo, Agusan, Oriental and Occidental Negros, Surigao, Cagayan, Leyte, Masbate, Rizal, Busuanga, Bataan, and the Mountain Province.

SPRUE.

A number of cases of sprue are continually found, but, so far, no facts have become available which throw any additional light upon the etiology of this disease. The Army Board for the Study of Tropical Diseases as they Exist in the Philippine Islands is now undertaking an extensive investigation with regard to this disease, and it is hoped that in the next annual report more definite information can be submitted.

TAON (Infantile Beriberi?).

During the year, Maj. W. P. Chamberlain, the chairman of the Board for the Study of Tropical Diseases as they Exist in the Philippine Islands, and Capt. E. B. Vedder, a member of the Board, made most important researches into the therapeutic effects which could be obtained by administering an extract made from rice polishings, to infants who suffered from "taon" (infantile beriberi?). Doctor Vedder reported that he had treated 15 cases of this disease among infants, with no deaths. The diagnosis of infantile beriberi, in each case, was concurred in by at least three independent physicians, so that diagnostic error

was eliminated as much as possible. In view of the fact that the death rate among cases of this kind in the past has always been in the neighborhood of 50 per cent, the results reported by Doctor Vedder are remarkable, and offer some hope that, perhaps, at last, a remedy has been discovered with which the high infant mortality can be successfully combated. With this end in view, this Bureau has had large quantities of the rice-polishings extract made, and is now having the same tested by the physicians connected with the different health stations, by having them treat with the extract such cases as come under their observation.

TUBERCULOSIS.

The systematic campaign against tuberculosis in the Philippine Islands is now largely in the hands of the Philippine Antituberculosis Society. Appropriations, instead of being made to this Bureau for this purpose, are now made directly to the society. This Bureau does, however, extend every possible aid within its power to assist in the suppression of tuberculosis.

The Antituberculosis Society has been energetic in its campaign against tuberculosis and continued to furnish treatment and advice from its dispensaries situated in different parts of the city and at the San Juan Tuberculosis Sanitarium, which is being administered by it.

The Bureau of Health has set aside two wards in the San Lazaro Hospital for advanced cases of indigent tuberculosis patients, and still maintains its tuberculosis camp in connection with the hospital at Baguio. From this place many encouraging results have been obtained, showing Baguio to have an excellent climate for tubercular patients.

The question of tuberculosis among Government employees has been given serious consideration. Among other things, it was determined that the best time to make the physical examination of applicants for positions was at the time they were actually offered a place in the Government service, and not at the time they take the civil-service examination.

The period which sometimes elapses between the examination and the date of actual appointment is sufficient for an applicant to become infected with tuberculosis although at the time of the examination he may have been in a healthy condition.

TYPHOID FEVER.

In order to ascertain more accurately the number of deaths that occur annually in the Philippine Islands from typhoid fever, a letter was addressed to persons in charge of the following hospitals, and the number of cases, with the Widal reaction, is reported herewith:

General return of typhoid fever in the Philippine Islands during the year 1911.

Hospitals.	Cases.		Deaths.		Widal.			Blood.		
	Male.	Female.	Male.	Female.	Positive.	Negative.	0.	Positive.	Negative.	0.
University Hospital	7	4	1	2	1					
Hospital de San Juan de Dios	4	1	1	1	5					
Military Hospital, Mindanao	0	0								
Dapitan	0	0								
Headquarters, Isabela, Basilan	0	0								
Butuan Hospital	0	0								
Baguio Hospital	0	1								
Hospital Español de Santiago	0	0								
Warwick Barracks, Cebu		2		0	2					
Division Hospital, Manila	4				3	1		1	3	
Camp Connel, Samar	0	0								
Camp Ward Cheney, Cavite	0	0								
Topographical Survey Detachment, Tanay	0	0								
U. S. Army transport Liscum, Manila	0	0								
Camp Downes, Leyte	0	0								
Fort William McKinley	1		0							
Puerto Princesa, Palawan	0	0								
Camp Overton, Mindanao	0	0								
Camp Keithley	0	0								
Fort Wint, Grande Island, among civilians	0	0								
Augur Barracks, Jolo	0	0								
Torrey Barracks	0	0								
Camp Wallace	0	0								
Fort Mills, Corregidor	6	1			6	1		3	3	1
Camp Wilhelm, Tayabas	2				1					
Regan Barracks, Albay	0	0								
Cotabato, Military Hospital		1			1					
Fort S. Pedro, Iloilo military hospital	0	0								
U. S. Army transport Seward	0	0								
Camp Bumpus	0	0								
Headquarters Philippine Division	0	0								
Camp Jossman, Guimaras	0	0								
Dispensary, Fort Santiago, Manila	0	0								
Camp McGrath, Batangas	1				1			1		
Garrison infirmary, Cuartel de España civilian	0	0								
Military Hospital, Camp Treadwell	0	0								
Camp Stotsenburg	0	0								
Camp Eldridge	0	0								
Mission Hospital, Iloilo	5	2			1	2	000			
Siasi, Siasi	0	0								
Tucuren, Mindanao	0	0								
Military Hospital, Davao, Mindanao	0	0								
Camp John Hay, Benguet, among civilians	0	0								
Philippine General Hospital	22	7	8	2	9	5	15	0	0	29

To obtain further information among the practitioners throughout the provinces, an invitation was extended to them to forward specimens of blood from any continued fever case

which lasted more than ten days. Responses were received as follows:

Dates.	Names.	Towns and provinces.	Widal.	Remarks.
Feb. 23	Arturo Gonzales	Baliuag, Bulacan	Negative	
Feb. 23	Victor Acosta	Umingan, Pangasinan	Negative	
Feb. 23	Joaquin Vitug	Lubao, Pampanga	Negative	
Mar. 4	Feliciano Arias	Orion, Bataan	Positive	
Mar. 14	Mr. Taylor	Bontoc, Mountain	Negative	
Mar. 15	Andres Jayme	Cavite, Cavite	Negative	
Mar. 19	Maria Concepcion	Balanga, Bataan	Negative	
Mar. 27	----------	Lucena Tayabas	Negative	
April 3	----------	Mariveles, Bataan	Negative	
April 12	----------	San Fernando, Pampanga	Negative	Agglutination test.
April 12	Africa de la Rosa	Lubao, Pampanga	Positive	Do.
April 23	Vicente Llamzon	Orion, Bataan	(?)	Specimen dissolved in physiol. Salt solution gave no agglutination with culture of bacterium typhosus.
April 26	Gregorio Catubig	Naic, Cavite	Negative	Agglutination test.
May 18	Sister Maria Raphael.	Bontoc, Mountain	Negative	Do.
May 27	Ruman Paxas	Macabebe, Pampanga	Negative	
May 31	----------	Guagua Pampanga	Positive	Agglutination test positive in dilution about 1:10; in higher dilutions, negative.
June 3	Several specimens, probably 3.	Santa Inez, Rizal	Negative	Agglutination test.
June 24	Gerardo Villareal	Iriga, Ambos Camarines	Negative	
June 24	Timotea Villareal	-----do	Negative	
June 24	Amparo Mendez	-----do	Negative	
June 24	Pedro Mendez	-----do	Negative	
June 27	Eusebia de Castro	Santa Rita, Pampanga	Negative	Specimen poor.

Out of 23 cases reported, only 3 proved to be positive for the Widal reaction. From the foregoing it is evident that typhoid fever does prevail, yet it can scarcely be said to be epidemic. For instance, at the Philippine General Hospital, which is an institution for the treatment of acute cases and has 350 beds, there were only 39 cases admitted during the year, of which 10 died.

It is believed, however, to be of the greatest importance to invoke measures which will prevent the further spread of this disease and reduce the number of cases already occurring. To this end, instructions are being sent out to provincial and municipal health officers that, in any case of continued fever, the necessary precautions should be taken to prevent infection of the hands and to disinfect all bedding which comes in contact with the patients, as well as stools and urine.

TYPHUS FEVER.

A few cases suspicious of typhus fever have been reported from the Philippine General Hospital by Doctors Musgrave and Sison, but, up to the present time, these cases have not been confirmed.

None of the cases reported proved fatal but nearly all of them

were characterized by a period of delirium of a maniacal character.

In view of the present theories with regard to the etiology of this disease, it is of interest to note that *Pediculi vestimenti* are unknown in the Philippines. Head lice and bedbugs are very common, and *Pediculi pubis* are also present, but comparatively rare, so that, if the suspicious cases reported are true cases of typhus fever, it would seem likely that there is an intermediary other than the body louse. The disease is still under investigation.

YAWS (FRAMBOESIA).

Yaws is present throughout the Philippine Islands, but it is believed that the disease is more extensively found among the wild tribes than among any other one class of persons. Salvarsan has been furnished free on application and through its use many persons were cured of this disfiguring disease. Salvarsan has given the same satisfactory results in the treatment of yaws as have been reported heretofore.

EXTRACTS FROM REPORTS OF DIVISION CHIEFS.

The following division reports are extracts from the annual reports of the chiefs of the various divisions of the Bureau:

BAGUIO HOSPITAL DIVISION.

The twelve months ended June 30, 1912, complete the fourth year of service of the present or new Baguio Hospital. The statistical tables printed in another part of this volume show the amount of work accomplished during the year.

COMMUNICABLE DISEASES.

A case of smallpox was discovered at Camp 5 in November. Prompt measures were taken against the disease, and no other cases developed. A few cases of varioloid appeared from February 29 to May 12. It was, apparently, imported direct from Manila.

Thirty-four cases of measles were registered from February to June.

During the year, four Igorots afflicted with yaws, voluntarily presented themselves for treatment. One injection of salvarsan proved sufficient to effect a cure in each instance.

The most serious disease encountered was bacillary dysentery, which broke out among the laborers on the new railroad project. Forty-two cases were treated in the hospital, with a mortality of 26 per cent. In the majority of the cases the Shiga-Kruse bacillus was demonstrated by the Bureau of Science bacteriologists. Investigation seemed to indicate that flies were an important factor in the spread of the disease.

The usual amount of acute diarrhœa was not encountered during the past season, notwithstanding the fact that more persons visited the summer

capital than ever before. A new water supply probably aided materially in preventing the disease.

SANITATION.

More active work to improve the sanitation of Baguio has been undertaken during the last half year than ever before. A vigorous campaign against flies and mosquitoes was conducted with the result that they have been largely exterminated. The pail and garbage collection systems have been extended to all parts of the town; three incinerators have been installed and are in daily use destroying refuse. Surveys for a sewer system have been made, and the installation of the same recommended by a committee appointed by the Governor-General.

A total of 575 patients were admitted during the year, and 6,818 visits to the hospital clinic were made; 7,124 vaccinations were performed in the province; 18 cases of tuberculosis were treated, in 4 of which the disease was arrested.

BONTOC HOSPITAL DIVISION AND MOUNTAIN PROVINCE SANITATION.

Sanitary water-closets have been installed on Bontoc, Cervantes and Quiangan, and their use made compulsory. The sanitary disposal of garbage is being carried out in Cervantes and the Christian portion of Bontoc.

In all of the subprovinces the Bureau has assistant sanitary inspectors, acting as practicantes, in charge of dispensaries. Approximately 12,000 persons have been treated in these dispensaries during the year.

Wards for the care of the sick are maintained in Cervantes and Quiangan.

The usual so-called "rice dysentery" prevailed during May and June, but examination revealed the fact that it was acute bacillary dysentery. Boiling the drinking water quickly stopped the epidemic.

Gonorrhœa assumed epidemic proportions in the subprovince of Ifugao from November to February, after that date only sporadic cases occurred.

About 75 cases of yaws were treated with salvarsan, and, with two exceptions, cures were attained with one injection.

Malaria is epidemic in Kalinga and Quiangan. Quinine is being generously administered and it is believed that, with the advent of the rainy season, the stagnant water will be washed out of the rice paddies and the situation relieved in the elevated regions.

A party of three Igorot vaccinators under the supervision of an American sanitary inspector has vaccinated more than 40,000 persons since January 1.

Inspection trips are made regularly and often as many as 40 sick persons are treated during the trip.

The Bontoc Hospital opened its doors to the public on February 2, 1912. It is a one-story brick structure and consists of 2 pavilions 30.6 by 13.5 meters parallel to each other and separated by nearly 10 meters. The two wings are connected by a corridor. The windows are of the shell type and are set in red narra frames. Modern plumbing is being installed; the waste draining into a septic tank.

Upon completion of the nurses' home the hospital will have 5 private rooms, 3 of them double, and will accommodate 30 ward patients which number may be increased to 40.

Since the opening of the hospital in February, 280 patients have been admitted with a total of 3,198 sick days. The staff consists of a chief, a pharmacist, a superintendent and housekeeper, a chief nurse, and three Filipina graduate nurses.

The out-patient department has given 5,492 treatments to 1,561 persons since January 1.

BUTUAN HOSPITAL DIVISION.

The Butuan Hospital was opened for the reception of patients July 16, 1911, and from that date until June 30, 1912, a total of 89 patients was admitted, the admissions being properly restricted to the most urgent cases on account of the limited number of beds. There were admitted three other persons, two, relatives of patients, and a child whose father was sentenced for a short time to the provincial jail, but these were not counted as patients.

In the dispensary department of the Butuan Hospital, there were treated 833 patients. Outside of the dispensary 342 patients were treated in 15 different pueblos, by the district health officer in charge of the Butuan Hospital, which makes a total of 1,175 dispensary patients.

In addition to the dispensary service, quinine distributing centers were maintained at Butuan, Cabadbaran, Talacogon; at the offices of the assistant governors of the districts of Omayan, Hibong, and Bunawan; the division superintendent of schools, the home of every teacher in the province, and at all the rancherias, thus making it possible for quinine to be obtained free of charge and at the cost of very little effort by every person in the province who needed it.

Butuan Hospital, situated in the capital of the wild man's country, and the complete health organization in operation, are the advance signs of a rapidly approaching civilization and enlightenment which a competent administration, an uplifting educational scheme and a life-saving sanitary organization are hastening on for the pagan people, and for all the people of the wild man's land.

CLERICAL DIVISION.

The past year has been noticeable as a year in which the results of the work of organization of previous years have begun to bear fruit. It is becoming less and less necessary to call the attention of officers and employees to carelessness in following instructions. That employees have become more familiar with laws and regulations and acquired more initiative in adjusting small matters without reference to this office has been shown. Different automatic systems of forwarding reports, samples and vouchers have been developed and simplified. Methods of communication and transportation have been enlarged and in all general cases employees now understand what to do and how to do it. This improvement is noticeable as well in provincial and municipal organizations.

Naturally, the fewer details to be given attention, the more time remains for improvements, inspection and inaugurating new systems. It is believed that the *esprit* of the Bureau is firmer now than it has ever been.

The financial work of the Bureau has received a large amount of attention during the year and is attaining a more satisfactory basis. The combination of property with money accounting has been developed and is believed to be of great benefit.

The failure of the Legislature to pass appropriation acts is found to be detrimental. As the Government becomes organized and reaches out to take hold of new propositions it requires a more mobile personnel and adequate means of enabling itself to do the work found to do; an appropriation act passed in 1910 will not fit with the work planned in 1913. Thus the General Hospital has been much hindered in its work by trying to do with few and temporary employees when it should have had more better paid and permanent employees. This has now been remedied by the allotment of the Governor-General, but there is a general feeling of uncertainty regarding appropriations which is not conducive to good work. The employees of the General Hospital who remained on duty, as temporary employees, awaiting the readjustment of positions are deserving of great credit for faithfulness under difficulties.

The shifting of permanent personnel becomes less as the years go by and is approaching the period when a certain percentage may be counted upon as the limit of movement. Filipino employees are becoming more efficient and American employees more settled.

During the year provincial record systems have been insisted upon, improvement in records made in outlying divisions and the back records of the central office bound up to a working limit.

It is believed that the greatest improvements apparent in the Bureau are due to the thorough inspections made by the Director of Health. A general tightening up of districts after inspection has been very noticeable and but emphasizes the need, which has often been discussed and delayed for lack of proper personnel, of constant inspection of the field force. It is believed that the coming year is the psychological period for the inauguration of a system of constant, thorough and unexpected inspection of all districts, hospitals and divisions. It is believed that such a movement will crystallize the work of previous years in such a way that the work will go forward with a bound.

The financial report will be found under Statistics.

CULION LEPER COLONY DIVISION.

The past twelve months have undoubtedly constituted the banner year, from a building standpoint, in the history of the colony; more new concrete buildings have been erected than during the previous five years of the colony's existence. Ten concrete structures have been completed, four carried to completion from an unfinished state, and three are at present under construction.

The leper labor was placed under the immediate supervision of Mr. M. J. Whalen, during the early part of the year, and very gratifying improvements, along the lines of sanitation, beautification, and permanent improvement have resulted under his efficient management. The insignificant amount of two days' work of four hours each, has been required of each able-bodied leper, per month; this amount of work in the colony—the requirement should be doubled, yet the aggregate of work accomplished during the year was surprisingly large.

Sanitation.—Very gratifying results have been obtained from a sanitary standpoint. The tin can and bone piles of ancient days are now nuisances of the past and the omnipresent, evil smelling, wooden water closets are rapidly being replaced by modern concrete toilets with shower baths attached.

The garbage was collected, the combustible portion of it burned and the residue placed upon a raft after which it was towed out to sea and thrown overboard. This rather unsatisfactory method of disposal will, hereafter, be unnecessary inasmuch as a new concrete and brick garbage crematory has been completed. All garbage will, henceforth, be burned and it is hoped that the indestructible portions will be reduced to slag so that it may be utilized as a body for street foundations.

Improvements in the colony.—The old convent was torn down; seventy-four houses of nipa and wood were constructed; about seventy-five houses were demolished; nipa roofs were placed on a number of the hard material and the majority of the nipa houses, more than 150,000 nipas being used for this purpose; galvanized-iron roofs were painted twice and woodwork in concrete houses oiled or treated with shellac; concrete structures were washed with cement paint when the surfaces became soiled; a number of the old bamboo cook sheds were torn down and two new ones constructed with galvanized-iron roofing; two pairs of handsome concrete steps were constructed, one pair leading to the church, the other to a point near the new store; about 4,000 plants and shrubs were planted in the colony and Balala; five tenement houses were erected, four of which are located on the new plaza site; the new store and post-office was carried to completion from a point several inches below the first floor girder; a new concrete toilet was erected near the "presidencia;" the Tabuk water reservoir was practically rebuilt and the entire pipe line straightened and tarred; a 9,000-gallon water tank was constructed in the colony to act as an auxiliary supply; an attractive concrete morgue was constructed near the south end of the hospital; a new concrete and brick garbage crematory was practically completed; nearly 10,000 cubic meters of earth were removed from the new plaza site; a cement disinfecting tank for beds was constructed near the hospital; nearly 1,000 lineal meters of storm-water drains were laid and many other minor improvements accomplished.

In Balala.—The employees' mess hall and kitchen were completed, and a bake oven with a capacity of 500 loaves of bread built in connection; a laborers' kitchen was built under the same roof that covers the bake oven; a concrete residence for the chaplains was constructed with the exception of the foundation; this is the most attractive building erected in Balala to date; an additional bodega shed was constructed; a new sailboat was built and all the water craft overhauled, repaired, and painted; about 4,500 cubic meters of earth fill was made along the water front and on the pier, 135 lineal meters of concrete storm water drains were constructed; three nipa sheds were removed; a concrete waterway was begun to divert the deluge of water that was formerly precipitated into the chief's yard upon the occasion of each hard rain; 1,300 concrete gravestones were made; nearly 30,000 feet of lumber was cut during the latter half of the year.

The colony cemetery is practically full. A new plot, larger than the present cemetery, has been staked out, which, when approved, will meet the needs of the colony for several years.

Probably no other measure adopted during the year created such universal satisfaction as the furnishing of good fresh bread to the colonists and employees. Its beneficial effects were at once apparent when its use was begun during the epidemic of beriberi during March and April, the number of cases dropping to almost nil within a short time.

During the month of October 12 colonists were sent to Manila apparently

cured of leprosy, two of this number were returned later. These cases had been under the chaulmoogra oil form of treatment.

The moral tone of the colony and of the employees in Balala during the year, was, on the whole, very satisfactory. The colonists, in the majority of instances, took kindly to the rule requiring them to work two days per month. It is believed that the time is approaching when lepers will petition to be sent to Culion instead of to San Lazaro Hospital and when they will voluntarily present themselves for transfer to Culion. During the past year at least five theatrical performances were presented and enjoyed by the colonists. There is no lack of the athletic spirit as track meets and especially baseball games are frequent occurrences.

INSPECTION DIVISION.

The work of the inspection division might be subdivided as follows: House to house inspection for sanitary condition and presence of communicable diseases, etc.; inspection of dairies, laundries, bakeries, tobacco factories, etc.; disinfection; mosquito extermination; rat extermination; physical examinations; collection of samples for routine examination; food and drugs; sanitary matters; presidents of municipal boards of health; school inspection; and special inspections and investigations.

During the year 25,469 houses were inspected; 9,040 disinfections were made, for different causes; action was taken on 8,002 applications for licenses to conduct different lines of business; 16,986 rats were caught and those not in a too advanced stage of decomposition sent to the laboratory of the Bureau of Science for examination.

The mosquito extermination squad has been very active and has succeeded very well in keeping down the common domestic mosquitoes, namely the *Culex fatigans* and the *Stegomyia persistans*, in Manila. The efficiency of the work of this squad could be greatly increased if a better oil for the purpose could be obtained.

Much time has been spent on food and drug products, both of local and foreign origin.

School inspection has been placed on a sound basis and is progressing very satisfactorily.

At the time that the main supply pipe was broken and Manila was compelled to use the filthy Mariquina water, inspectors were sent to patrol the watershed and make house to house inspections of the different municipalities with a view towards preventing the pollution of the water. During the month of July assistant sanitary inspectors were detailed to the municipalities of Lipa and Bauan, Batangas, for the purpose of investigating cases reported suspicious for cholera, and correcting insanitary conditions. During the slight cholera epidemic in La Union Province assistant sanitary inspectors were detailed to that place to work under the district health officer in combating the disease. Assistant sanitary inspectors were also detailed in Calamba, Laguna, for the purpose of making special investigations and correcting insanitary conditions. In addition to this, assistant sanitary inspectors have been detailed as vaccinators in the Mariquina Valley, the Island of Masbate, and the Island of Busuanga, and numerous investigations have been made in nearby municipalities relative to the presence of communicable diseases, sources of milk supply for the city of Manila, etc. Upon the request of the company interested, a medical officer was sent to Paracale, Ambos Camarines, to investigate a report of an unusual amount of sickness in that place,

especially dysentery. It was found that, while there had been deaths from dysentery, conditions were not as bad as were supposed, but, on account of the probabilities of bad water for drinking purposes, and the presence of malarial fever, recommendations were made which, if carried out, would better conditions.

The Bureau of Health has also been placed in charge of the sanitation of the camps in connection with the construction of the new railroad to Baguio, as well as of the treatment of the employees.

A sanitary inspector has been constantly in charge of the mosquito exterminating squad, while another sanitary inspector has been performing duties in connection with the Board of Food and Drug Inspection, exclusively.

There has also been detailed to the Government ice plant throughout the year an assistant sanitary inspector to supervise the employees relative to sanitary matters.

Much time is consumed in the office in handling the matters relative to cemeteries and the presidents of the municipal boards of health.

The number of physical examinations has greatly increased during the year mainly due to the fact that chauffeurs are now required to be examined and licensed. The report is published on page 52.

Distribution of personnel of the office of the Assistant Director of Health, June 30, 1912.

	Medical inspectors.	Municipal physicians.	Sanitary inspectors.	Assistant sanitary inspectors.	Sanitary police.	Disinfectors.
Station "A"	1	3	2	26	6	6
Station "C"	0	2	2	18	2	0
Station "I"	1	1	1	11	4	0
Station "J"	1	1	1	12	3	3
Station "L"	1	1	1	7	3	0
Sanitary engineering division	0	0	3	1	0	0
Provincial duty	4	0	2	4	0	0
San Lazaro Hospital	1	0	0	0	0	0
Philippine General Hospital	1	1	0	1	0	0
Bilibid Prison	1	0	0	0	0	0
Office assistant Director of Health	0	0	0	0	0	0
Mosquito service	0	0	1	9	0	0
On leave	4	0	0	0	0	0
Special duty (Food and Drugs)	0	0	1	0	0	0

PHILIPPINE GENERAL HOSPITAL DIVISION.

[Extract of the report of the superintendent.]

INCOME FROM OPERATIONS.

The income from operations will be found in the financial statement of the Bureau in the appendix.

IMPROVEMENTS.

Considerable has been accomplished in the way of improvements, which, for convenience, will be enumerated in the order of their importance:

A service building which provides, among other things, living quarters for male pupil nurses, was opened early in February, and has proved to be a desirable acquisition.

A temporary dormitory for pupil nurses, has been secured by remodeling one of the buildings of the Normal School.

Two wards have recently been opened for admission of patients; and, while the total bed capacity has not been materially increased, the congested condition of all other wards is somewhat relieved, and the hospital presents a more normal appearance.

The Bureau of Science branch laboratory has been removed from the dispensary building, and transferred to a more convenient location in the operating pavilion, floor 15.

An information desk, embracing physicians' call bells, telephone system, and ambulance alarm, has been installed in the rotonda of the administration building. This department is under the direct supervision of the chief clerk, and operated by three information clerks, working in shifts of eight hours each.

Private offices for the superintendent and chief nurse are now complete, and very acceptable. The front portion of the main office, has been partitioned off with a suitable grill, thus providing some privacy for the cashier and his assistants.

The appearance of the grounds has been greatly improved by the addition of trees, shrubbery, and lawns.

Plans for the enlargement of the free dispensary are under way; and it is hoped that this construction will be completed at an early date.

A residence for the superintendent of the hospital has been approved, and plans practically completed.

The hospital accounting system, recently inaugurated, is a modification of the one generally adopted by representative institutions in the United States. Among other things, it provides for an accurate accounting of departmental expenditures, with a suitable classification of all receipts from operation. The various incomes are immediately accounted for by the use of special charge forms, conveniently classified by color, while the system of consecutive numbering in triplicate form, protects the hospital against possible loss. The lavish credit system heretofore in vogue, has been curtailed to a point within reason, and a comparative analysis of the monthly cash income report will furnish sufficient evidence in favor of the change. Property accounting is now established on a more substantial basis.

The hospital diets show sufficient improvement to warrant the continuation of a system known as "detailed supervision"; and when a competent dietist has been secured to personally supervise the special features, this department will be able to properly serve the needs of the institution.

Some change has been inaugurated as regards the housing of male helpers. Heretofore, they occupied quarters within the institution, and were also furnished subsistence. This plan may have its advantages, provided isolated quarters are available, but, as rather extensive construction would be necessary, it was decided to permit this class to live outside the institution.

The Training School for Pupil Nurses continues the creditable work of the past, a report of which has been presented by the superintendent of that department.

RECOMMENDATIONS.

Accommodations for patients. A perusal of the statistical tables, showing the number of "patients refused admission on account of no accommodation" should be sufficient argument in favor of a new pavilion. A

maternity home would, undoubtedly, be the logical construction: and it is recommended that this be authorized.

Pupil nurses' dormitory. The growth of the hospital proper, will, of course, demand increased accommodations for pupils in training, and a building, similar to the present nurses' home would be very desirable.

A playground for children. This could be arranged at small expense, provided the hospital grounds were entirely closed to the public.

The private room capacity on floor 3 is inadequate for the needs of the institution, and it is pointed out that four extra rooms (two with private bath) may be provided by suitable reconstruction of ward 308. All private rooms should be suitably decorated, and those with bath equipped with sanitary toilet fixtures.

A portable phone system would be well adapted to our requirements; and it is recommended that same be installed for private room service.

A silent signal system for notification of physicians and nurses has been placed in large institutions throughout the States, and found to be very satisfactory. It is recommended that this particular system be installed, as it provides serveral features which are especially adapted to our work.

The expense of operation is unusually high, which may be partially accounted for by the fact that persons who are well able to pay for treatment, receive same on a charity basis. This practice, if continued, will only serve to injure those who receive charity, and increase the cost of operation.

A plan to relieve this undesirable condition suggests itself in the form of a twenty cent charge for prescriptions, which sum will cover the cost of the average bottle, cork and label, or dressing, as the case may be. Attention is invited to the present policy of extending the charity services of this hospital to employees of large corporations; and, in an attempt to remedy this evil, it is suggested that a reduced rate be authorized, provided, that the employer guarantees the amount. Two pesos per day is suggested as a proper charge.

The present rates of compensation for the personnel are not such as will attract the most desirable men for this work, and when one considers the exacting demands of hospital service, together with continuous long hours, irrespective of Sundays and holidays, it is reasonable to believe that efficient services will not be secured unless some allowance is made for the above-mentioned conditions.

The method of securing supplies for the hospital, especially commissary items, is far from satisfactory, and on several occasions the service has been seriously handicapped by reason of delayed or incomplete deliveries. The hospital management has no authority to make emergency purchases, and anyone familiar with hospital requisites will readily understand that such a condition can only serve to interfere with the proper care of the sick. Any delay in furnishing treatment to a patient is inexcusable, and yet permission has to be secured from the Insular Purchasing Agent before an emergency order can be placed. Attention is invited to the fact that on Sundays, holidays, and after regular business hours, it is not possible to communicate with the Purchasing Agent's department. It is recommended that a sum of money (not to exceed ₱100) be placed at the disposal of the superintendent, who may make such emergency purchases as conditions require, rendering an account of same monthly.

In conclusion, attention is invited to the fact that during the year just

closed 772 Government free patients were treated, for which no compensation was received. In order to show a fair return for operation it is suggested that each Bureau be made liable for any indebtedness incurred by employees of the above-mentioned class.

EXTRACT FROM REPORT OF CHIEF OF CLINICS.

The growth of the hospital and free dispensary has been so rapid during the short period of its existence that there has been constantly more or less confusion in its organization and this confusion has been accentuated by the difficulty, and in some instances, impossibility, of securing a sufficient qualified personnel.

The disorganized condition of affairs of the institution culminated in a personal investigation by the honorable the Secretary of the Interior, during the months of September and October, 1911. As a result of this investigation a majority of the problems of the institution have been solved, the organization has been much improved and altogether the workings of the hospital are in a much more satisfactory condition. Personnel.

The professional personnel of the hospital is made up by detail from the teaching faculty of the College of Medicine and Surgery, University of the Philippines, and from the force of the Bureau of Health. It consists of a nonresident staff, a house staff, and interns. Owing to the exigencies of the service, the changes in personnel of the hospital have been entirely too frequent for the most efficient service. The number of men on duty on the permanent house staff is entirely too small to meet the demands of the institution. With one or two exceptions the work of individual physicians has been satisfactory, and, in many instances, long hours of overwork have been fulfilled in the proper spirit.

REPORT OF DEPARTMENTS AND DIVISIONS.

Out-patient department—Free dispensary division: The growth of this division during the fiscal year has been phenomenal. During the year 1911 there were treated in this division, 24,335 patients composing 11,375 individuals, and the dispensary pharmacy filled 39,178 prescriptions.

During the fiscal year 1912, the division handled 64,673 patients composing 25,171 different individuals and there were 83,517 prescriptions compiled in the Pharmacy.

Owing to incompleteness of the 1911 records, the number of minor operations and dressings was not reported. For the year 1912, there were 779 minor operations in the surgical clinic, and 16,612 dressings. There were 18 minor operations and 84 dressings in the department of eye, ear, nose and throat. (The majority of operations and dressings for this department are recorded in the hospital statistics.)

Previous to April 1, 1912, no separate record was kept of the Government employees applying for treatment at the free dispensary. During the three months from April 1 to June 30, 1,418 Government employees were cared for at the free dispensary.

Visiting and office consultation division: There are no records for this division prior to November, 1911. During the latter eight months of the fiscal year there were 8,368 official office consulations and 213 outside visits by members of the hospital staff delegated for this purpose.

Department of eye, ear, nose, and throat.—There is no report for this department for the year 1911, and the appended table explains the operations of the department for 1912. Attention is invited to the enormous amount

of work, including 925 major operations; 1,440 minor operations; over 11,000 dressings; and 1,128 refractions of the eyes, performed almost entirely by Dr. Rembe with only one assistant.

Department of surgery.—The report for 1912, including the anæsthesias, is shown in the appended table.

Electro-therapeutic division: During the year a more complete record system was installed. The annual report covering the workings of this department for the fiscal year 1912 is outlined in the appended table.

Department of obstetrics.—This includes the hospital cases of the department of obstetrics of the College of Medicine and Surgery.

Attention is invited to the rapid development of this department. Only one year ago it was difficult to persuade Filipino women to come to the hospital for confinement, and at the present time our charity ward of 25 beds for this purpose is practically filled all the time. The appended table shows numerically the operations of this department.

Department of medicine.—The department of medicine has no special report to make. Its workings should be included in the index of diseases cared for during the fiscal year. The index of diseases has not been completed for two reasons; first, because of the lack of properly trained clerical help, and second, because a system of nomenclature of diseases satisfactory for the hospital has only been completed within the last month.

EXTRACT FROM REPORT OF THE SUPERINTENDENT OF THE TRAINING SCHOOL FOR NURSES.

At the graduation exercises on April 9, 1912, thirty-five Filipina women were given the degree of graduate nurse. Twenty-one of these young women had completed a four-year course of training and fourteen a two and one-half years' course. All of the latter returned to the school to take up a six months' post-graduate course in the branches of nursing in which they may desire to specialize, as, for instance, district nursing, operating-room work, obstetrical work, anæsthesia, etc. Those who completed the four-year course have been given civil service appointments in the Bureau of Health and assigned to the various hospitals in the Philippine Islands. Three were detailed to the hospital at Baguio; two were sent to Cebu to do district nursing; two were assigned to the San Lazaro Hospitals at Manila; five were sent to the Bontoc Hospital; and the remainder given positions as nurses at the Philippine General Hospital. Of the latter, one has charge of the dispensary; one is assistant chief nurse of the surgical department; two are detailed as head nurses of the operating room; two have charge of the dietetic department and kitchen; and the remainder have been assigned to general duty as head nurses in the wards.

The work of these young women during their training and afterwards has been very satisfactory. In all assignments they have given willing, cheerful, and efficient service and have proved themselves well adapted for the profession of nursing.

Only one of the 1912 graduates has left the service and that only to continue her education with the object of taking up the study of medicine in the University.

It has been found impractical to include in the short period of two and one-half years, the training which young men and women should have to make them capable supervising nurses. Therefore the course has been extended to three and one-half years in order to give an opportunity for the student nurses to do special work during their senior year. The course

has been extended considerably and it is hoped to enlarge it still further in the near future.

EXTRACT FROM THE REPORT OF THE SUPERVISING NURSE.

The number of appointments during the year was: Americans, 24; Filipinas, 21. The number of resignations was: Americans, 11; Filipinas, 0. The number of promotions was: Americans, 17; Filipinas, 6.

In pursuance of the policy set forth in the circular of information issued to nurses in the United States, two nurses in the civil service nurse corps were selected to fill the position of hospital superintendent. One was sent to Baguio Hospital and one to Bontoc Hospital. It is the intention of this Bureau to fill such positions in all the hospitals which may be opened in the future from the same corps.

The present year saw the completion of the nurses' homes at Baguio Hospital and San Lazaro Hospitals and the nurses of these institutions are now comfortably housed in their own quarters.

The new dormitory for male nurses located on the grounds of the Philippine General Hospital was completed in February, and occupied in March, of this year and these young men are now enjoying the benefit of the finest set of bachelor quarters in the Orient.

A commodious and attractive dormitory for Filipina pupil nurses is now complete and will be ready for occupancy in a very few days.

The Bontoc Hospital was opened in November with an American graduate nurse as superintendent, and the work has progressed so much, that a staff of two American and five Filipina nurses are found inadequate to accomplish the work.

It is the intention of this Bureau to supplement the work of this hospital by provincial traveling nurses who speak the Igorot and other dialects of this northern country. There are several such nurses in the Philippine Training School and as soon as they graduate they will be ready to take up this branch of nursing, which is an altogether new, but a very desirable branch of usefulness for earnest, hardworking nurses.

The Culion Leper Hospital was visited three times during the year, on one occasion a stay of nearly a month was made, thus making it possible to open a diet kitchen and train a cook in invalid cooking of a simple nature.

A system of hospital housekeeping was inaugurated, whereby the hospital is given a daily scrubbing inside and out, by the lepers, who are sufficiently able-bodied to do such work. A weekly disinfection of all hospital furniture by a scrubbing with soap and water, followed by complete immersion in a large tank of bichloride solution makes a very perceptible decrease in the characteristic leper odor, in and about the hospital.

The corps of nurses at the Philippine General Hospital has been increased by the addition of eleven American and twenty-eight Filipina graduate nurses.

A course for post-graduate study is now offered at the Philippine General Hospital and now has an enrollment of eighteen, fourteen of whom are graduates of the Philippine Training School and 4 from other training schools in the Philippine Islands.

Through the kindness of Mrs. E. M. Simpson, superintendent of the Illinois Training School for Nurses, and Miss Sara E. Parsons, superintendent of the Training School of the Massachusetts General Hospital,

the graduates of the Philippine Training School for Nurses will be accepted in the post-graduate schools of these institutions.

These hospitals grant a diploma and recommendation to any nurse completing their course satisfactorily.

It is respectfully suggested that due provision be made for the travel expenses and maintenance, of two or more graduates of the Philippine Training School at each of these institutions, yearly; provided that the nurse so honored be willing to remain one year in the employ of the Bureau of Health after returning to these Islands.

The San Lazaro Hospitals have offered excellent opportunities to pupil nurses, owing to the great variety of dangerous communicable diseases treated there during the year.

Bilibid Hospital has continued to do good work under the able supervision of the nurse who has had charge of it for the last four years.

In this connection it is earnestly recommended that an effort be made by this office to have a matron of some sort employed in every provincial jail where women prisoners are detained. At present some provincial jails have women prisoners, sick prostitutes and insane women crowded into dark, insanitary rooms, without the supervision of a woman.

Municipal hospitals also treat women patients; but do not employ a matron, such a condition is intolerable and should be corrected at once. It costs no more to employ a clean, intelligent, capable Filipina woman, than it does to employ the incapable practicantes now in charge of some of these hospitals. While this office is not responsible for such conditions it is thought proper to call the attention of the Director of Health to them, that he may use his influence to have them placed under proper control.

The president of the University of the Philippines has signified his willingness to add to the university courses a teacher's course for nurses, similar to the course now offered by the Columbia University. This course will lead to the degree of bachelor of science and will be open to all duly registered, graduate nurses.

The alumnæ of the Philippine Training School have formed an association for their mutual aid, protection, and advancement, to the end that they may bring a knowledge of cleanly, sanitary, and hygienic living to the poor and ignorant wherever they may be found.

In pursuance of this object they desire to present to the coming Legislature the following bill for the registration of nurses, entitled "A bill providing for the appointment of a Board for the examination and registration of nurses in the Philippine Islands."

It has been the long cherished plan of the Bureau of Health to see every province and every municipality of these Islands supplied with graduate Filipina and Filipino nurses who would be able to speak to the various tribes in their native language.

Owing to the recent graduation of a large class of Filipina nurses, it has become possible to begin the organization of this work. In May of this year the provincial board of the Province of Cebu, at the suggestion of the district health officer of the province, approved the appointment of three graduate Filipina nurses. Two of these appointments have been made and the third will be made very shortly.

The duties of the district nurse will be to visit every town in the province and after consulting the birth records make a house to house inspec-

tion of the homes of the newborn and make every effort to ascertain the conditions under which the infants are living. Should she find conditions detrimental to the health of mother or child she will by suggestion, advice, and instruction endeavor to change these adverse conditions to others sufficiently hygienic to enable an infant to thrive. When the infant is bottle fed, the nurse will instruct the mother in the preparation of infant food, the care of bottles, nipples, etc., the necessity for absolute cleanliness of all utensils used, as well as the hands of the person preparing the food. Where the infant is breast fed they will instruct the mother in the matter of diet, personal hygiene, etc.

In every case the nurse will instruct the mother in the care of the infant and will, wherever possible, make several visits to see whether the instructions given are being carried out.

In case mother or child needs the care of a physician and is unable to pay for such care, the nurse should refer them to the municipal physician or the district health officer.

Nurses will invite mothers to neighborhood meetings and instruct them in the matters of infant feeding, care of the new-born, care of the infant, care of the child, and care of the mother during pregnancy and labor. They will, if possible, attend all poor women in child-birth, who request their services and will care for mother and child for five days after birth; in all such cases the mother should be carefully instructed before the nurse ceases her visits.

When the district health officer deems it necessary he may send the nurses to the public schools to give lectures on infant feeding, segregation of contagious diseases, personal hygiene, etc.

A nurse will visit the provincial jail weekly and examine the quarters and persons of the women prisoners and make a report thereon to the district health officer.

She will instruct the women in personal hygiene at each visit and endeavor to have them live in a hygienic manner during their term of imprisonment.

The nurse shall note the sanitary condition of every house she visits and in case conditions are detrimental to mother or child she will endeavor to improve them by suggestion, advice and instruction, and, if necessary, she can report to the district health officer such conditions as may need special attention from him.

The nurse shall observe during her rounds the presence of communicable diseases, deformities or conditions which are likely to be helped by medical or surgical treatment; if possible she should induce the patient to go to the hospital or dispensary, or if this is not possible, she shall report the matter to the district health officer.

Where tuberculosis is known to be in any house the nurse will make an effort to meet the patient and instruct him in the proper hygienic measures to be observed in order that he may make a recovery and to prevent the spread of the disease to friends, relatives, or others.

The nurse shall write a daily report of her work and will submit it once a week to her immediate superior for approval.

In addition, the nurse will do everything in her power to bring to the homes of the poor as much knowledge of household and personal hygiene and household nursing as it is possible to gain in this manner.

In connection with this work it is earnestly recommended that every province or municipality employing district nurses should build a settlement house where the nurses can invite the mothers to meet and compare notes, weigh babies, receive instruction and observe the nurses living in a simple yet hygienic manner. It is believed that the knowledge obtained by this practical demonstration costs less, and lasts longer than that obtained in any other way.

Nurses shall in case of epidemics of dangerous communicable diseases hold themeselves ready to faithfully perform such duties and render such aid as the district health officer may direct.

PRISON SANITATION DIVISION.

The cases of dangerous communicable diseases that occur at Bilibid were formerly sent to San Lazaro. They are now cared for in sheds near the hospital. A concrete building will soon be erected for this purpose.

Two new bridge buildings were constructed during the year and are satisfactory from a sanitary standpoint.

The quarters occupied by the Presidio women have been considerably enlarged during the year by utilizing an adjoining room. The ventilation was materially improved by cutting a series of windows between the rooms. The women's quarters have been whitewashed throughout.

The cell houses were formerly dark and illy ventilated. During the past year new roofs provided with ventilators have been put in place.

The low ground to the east of the prison wall is in process of being filled with street sweepings. This is sprinkled with kerosene oil and covered with soil daily.

Permanent concrete cuspidors have been conveniently placed about the grounds. They are provided with removable metal receptacles and covers.

Storm water is carried off by open surface drains which empty into the estero. They are swept and flushed daily. All flush closets, urinals, kitchen and hospital sinks empty into the city sewer.

Garbage is collected in barrels and removed daily. While awaiting removal it is stored in screened sheds.

All new arrivals are disinfected and placed in quarantine for five days. During the quarantine the fæces of each prisoner is examined, and, if found positive for parasites, he is sent to the hospital for attention. They are vaccinated upon arrival and all contacts are immediately given the same treatment. The entire population is vaccinated annually.

A disinfecting squad has been assigned to the hospital for duty as disinfectors. These men, in addition to disinfecting buildings after the discovery and isolation of cases of communicable disease, are daily engaged in routine disinfection of brigades passing from one brigade to the other.

All floors, walls, and bunks are cleaned with a disinfecting solution, and blankets and equipment are placed outside in the sun. Upon discovery of a communicable disease in a brigade, an inspector of the prison is notified of the fact, and immediately isolates all occupants of that brigade. As soon as practicable, all prisoners from such brigade, together with their blanket rolls, mess tins, and other equipment, are marched to the hospital inclosure and put through the large disinfecting tank. The brigade itself, is then disinfected before the inmates are permitted to reenter.

All newly arrived prisoners are disinfected before being sent to quarantine. Hospital beds are disinfected weekly, after death, and after communicable diseases.

The good results of routine disinfection of brigades are apparently demonstrated by the rapid reduction of cases of communicable diseases following routine disinfections which were begun during March, 1911.

Able-bodied Oriental prisoners, in addition to their work, are daily put through a series of setting-up exercises, except when sick in hospital or excused on account of physical disability. This, undoubtedly, has contributed largely to the general health of the prisoners by bringing about a greater lung expansion, and better muscular development, thus enabling them the better to resist disease.

Tubercular patients, and patients convalescing from general diseases are required to exercise in the hospital garden daily. Those whose physical condition permit, are assigned to light duty about the hospital and grounds.

During the past year, much has been added to the hospital equipment, including the following: A new operating table, many new instruments, glass-top tables, glass case for dressings, enameled washstands for hand solutions, etc.

The operating room has been freshly painted and fitted with Osram 50 candle-power electric lights. A fresh air tent with a capacity of 10 beds has been erected in the hospital enclosure, for the open air treatment of such acute cases as may be considered advisable.

The various buildings, prison baths, etc., about the prison are supplied with city water. The supply is ample, with the exception of the hospital, which is supplied from a separate pipe leading off from the Cervantes main. This pipe does not furnish sufficient water for the needs of the hospital, as the pressure on the second floor is insufficient properly to flush the closets. A larger supply pipe is recommended.

All drinking water is distilled at the central boiling plant, thence distributed about the prison in locked metal cans provided with faucets. The water is hot when put into the cans, and being drawn therefrom by means of faucets, there would appear to be no means of the water becoming contaminated before drinking, except by grasping the drinking-cup in such a manner as to allow contamination from the fingers.

IWAHIG PENAL COLONY (PRISON SANITATION DIVISION).

The work of segregating the tuberculosis cases which are most dangerous has been begun with the erection of two additional pavilions accommodating fifty cases and further work of this nature will be continued at Camogong barrio where two small cottages are now completed which are occupied by some sixteen tuberculosis cases able to do gardening and light work. This barrio is about one mile from the nearest barrio of nontubercular cases.

Sleeping barracks have been built at Malamig, Esperanza, and, for the men employed in road making some eight miles from Iwahig on the Inagaun trail.

A screened dormitory for malarial cases carrying gametes should be constructed at the central colony.

PROPERTY DIVISION.

During the year, 649 general requisitions were received and filled from the following sources:

Provincial requisitions	187
Health stations	114
Central office	18
Sanitary engineering division	26
Assistant Director's office	9
Statistical division	7
Board of Medical Examiners	1
Central Free Dispensary	15
Philippine General Hospital	81
San Lazaro Hospital	9
Prison sanitation division	16
St. Luke's Hospital	14
Mary J. Johnson Hospital	8
San Juan Tuberculosis Hospital	10
Culion leper colony division	33
Baguio Hospital division	14
Iwahig penal colony	17
Bontoc Hospital division	26
St. Paul's Hospital	3
Southern Islands Hospital	2
Sibul Springs Sanatorium	12
Divisoria nurses' dormitory	18
Antituberculosis Society	3
Santo Tomas University	6
Total	649

From other Bureaus and individuals there were received and filled 194 requisitions for supplies which were paid for by the requisitioners.

Sixty-one requisitions for commissary supplies were received from the following sources:

Philippine General Hospital	16
San Lazaro Hospital	11
Divisoria nurses' dormitory	13
Baguio Hospital division	8
Culion leper colony division	13
Total	61

These required the issuing of orders under the "direct order and payment system," as follows:

Philippine General Hospital	142
San Lazaro Hospital	82
Divisoria nurses' dormitory	71
Baguio Hospital division	55
Culion leper colony division	161
Total	511

and 84 requisitions on the Bureau of Supply for items not covered by contract.

For vaccine virus, requisitions were filled to the number of 2,492, for 2,044,900 units.

Number of units of virus on hand July 1, 1911	14,400
Received during the year	2,066,000
Total	2,080,400
Issued during the year	2,044,900
Remaining on hand June 30, 1912	35,500

Inter-Bureau vouchers received from the following sources:

Bureau of Supply	553
Bureau of Public Works	4
Bureau of Prisons	13
Bureau of Constabulary	1
Bureau of Education	1
Department of sanitation and transportation	3
Open market	101
Total	676

During the year, 235 shipments were made by boat and 114 by rail requiring 349 bills of lading.

Simple remedy packages Nos. 1, 2 and 3 were prepared by the division and issued as follows:

	1	2	3
On hand June 30, 1911	32	47	2
Manufactured during the year	145	128	27
Total	177	175	29
Issued during the year	173	161	23
Remaining on hand June 30, 1912	4	14	6

Total number issued during the year, 357.

DIVISION OF SANITARY ENGINEERING.

The year was quiet and not marred by epidemics, thus enabling the sanitary engineer to devote his time to the study of means for the improvement of sanitary conditions throughout the Islands.

MANILA.

Consolidation of sanitary work.—On August 1, 1911, the sanitary engineer of the Bureau assumed the duties of sanitary engineer in the department of engineering and public works of the city of Manila in addition to duties as sanitary engineer of the Bureau of Health. The office of the inspector of plumbing was then transferred and moved from the City Hall to the Santa Potenciana Building. The result is to put the plumbing work of Manila immediately under the direction of the Sanitary Engineer for the Bureau of Health. The Bureau of Health previously exercised considerable control over the plumbing work, as plumbing certificates were not issued without being countersigned by the sanitary engineer. When unsatisfactory work was encountered, however, due to different standards of inspection of the two offices, the correction of such matters was slow and often involved much correspondence and many explanations.

Under the present system, the inspectors of plumbing are in daily and constant touch with the sanitary engineer of the Bureau of Health and any difficulties encountered are immediately known and adjusted.

The master plumbers are now able to transact all their work in one office and one clearly defined policy is pursued throughout the prosecution of any work

The sanitary sewer, Manila.—Work on the connection of private premises with the sanitary sewer is progressing as the tabulated report attached shows.

Sewer connections.

Total number to be made	5,856
Total number made during the three years the sewer has been in operation	2,574
Total number made during the last fiscal year	950
Percentage of premises connected	44.0
Percentage of premises not connected	56.0

The above is in spite of the fact that the validity of Ordinance No. 125, enacted for the purpose of forcing owners to connect their premises to the sanitary sewer is still being contested in the courts.

The principal case is now before the Supreme Court for the final decision. In other words, the large percentage of premises connected during the last three years indicates a healthy appreciation upon the part of house owners in Manila of the benefits accruing from the use of the new sewer system.

Public convenience stations.—Additional public convenience stations were placed in operation during the year as follows:

No.	Location.	Pails.	Date.
175	2315 Anloague, Tondo	14	July 31, 1911
176	Pier No. 3, Calle Ermita	(a)	Aug. 15, 1911
177	1004 Calle Dagupan, Tondo	16	Aug. 23, 1911
178	Paco station, Calle Herran	8	Dec. 20, 1911
179	Singalong station, Calle Vito Cruz	7	Nov. 21, 1911
180	35 Calle Habana, Santa Ana, back of	5	Nov. 24, 1911
181	297 Gonzalez Tuason, Sampaloc, opposite	9	Dec. 13, 1911
182	355 Gonzalez Tuason, Sampaloc, opposite	9	Dec. 16, 1911
183	Muelle de la Industria, Binondo	7	Mar. 5, 1912
184	1238 Calle Agno, Malate	9	Mar. 9, 1912
185	Paco Market, Paco	8	Apr. 17, 1912
186	208 Calle Trabajo, Sampaloc	7	May 11, 1912
187	Corner Trabajo and Santa Mesa, Sampaloc	8	June 2, 1912
188	312 Sulucan, Sampaloc	8	May 6, 1912

[a] Flush closet.

Public closets transferred, fiscal year 1912.—No. 5, rear of Divisoria Market to Pier No. 5, flush closets; No. 86, rear of Quinta Market to south side of same, flush closets.

Public closets discontinued, fiscal year 1912.—No. 34, Herran Market, April 30.

The above localities are generally in the native quarters of the city; also contiguous to certain congested native commercial districts, for the use of stevedores, laborers, patrons of public markets, etc.

Culion.—Frequent trips were made to Culion in connection with engineering projects. A complete contour map of the town of Culion, including

Balala and vicinity, was completed during the month of March. This also included a partial survey of the island.

The survey covered an area of 7 square kilometers and cost, including salaries ₱812 or ₱116 per square kilometer. The highest mountain encountered in the survey was Mount Chinankin, distant 3.6 kilometers from Culion village.

Iloilo.—Iloilo was visited August 12 to August 16, 1911, with a view to investigating existing conditions, recommending for enactment a sanitary code, and other matters. The special report deals with the necessity for enacting this legislation, and calls attention as well to the necessity of a more concentrated form of government than that now in force. A town council of eighteen members, serving without compensation, many of them living in distant villages, is not conducive to a realization by the members of the modern needs of a municipality growing as fast and with as much commerce as Iloilo. The town should be incorporated and a commission form of government is recommended.

Cebu.—Cebu, similar to Iloilo, lacks adequate drainage facilities. The Osmeña waterworks system now nearing completion will, when in operation, discharge large quantities of water into what are at present undrained back yards and undrained streets. It is needless to say that a sewer system, although expensive, would be of vast benefit to the town. A rough estimate of the cost of such a sewer system, including one pumping station, has been unofficially placed by the Bureau of Public Works district engineer at ₱200,000. It is possible that this estimate may be reduced. It is recommended that investigations be made with a view to building a combined storm and sanitary sewer without a pumping station to discharge into deep water at the mouth of the Guadalupe River.

Pending the construction of a sewer system, work on a systematic guttering of all existing streets should be arranged for and such drainage placed in operation. This will always be a necessary sanitary adjunct to the municipality whether sewers are built or not. These gutters should be sufficiently deep to drain not only the street areas but also the surrounding ground, when such ground is capable of being drained.

Esteros: The esteros or salt-water estuaries of Cebu are now a menace to the public health of the community and should be walled.

Cavite.—Cavite was inspected April 10, 1912, at the request of Doctor Peck, of the Navy, and the district health officer, of Cavite, and an estimate was prepared for a small sewer system intended to rectify the present unsatisfactory conditions.

This estimate was forwarded to the Executive Secretary who returned it on May 8d with the information that the municipality of Cavite was not in a position to finance such an undertaking and had already exhausted its credit with the Insular Government.

Baguio.—Sewer system: April 18 to 25, inclusive, was spent in Baguio in compliance with orders issued by the Director of Health at the request of Mr. C. W. Hubbell, chief engineer of the Bureau of Public Works, for the investigation of the best means available for the disposal of sewage in Baguio. A joint report of this matter is now in preparation. During the course of the investigation, which was made in a very thorough manner, it developed that probably the only satisfactory method to be pursued would be the construction of a complete system of sewers for the city; the sewage to discharge into treating basins in the vicinity of

Trinidad, and from there the effluent could probably be discharged into the Naguilan River.

Course of instruction in structural sanitation.—A course of instruction was commenced on May 27, 1912, for the purpose of drilling inspectors and other employees on the public health, building and plumbing ordinances of Manila. By special order of the Director of Health, dated June 1, 1912, all sanitary inspectors of the Bureau of Health are now required to be present. The hour is from 7.30 to 8 every morning execept Sundays and holidays.

SAN LAZARO HOSPITALS DIVISION.

The total number of patients in this division for the year was 3,180. Of these, 1,684 were comprised in the insane, leper, and tuberculosis departments, the remainder being acute contagious diseases such as measles, varioloid, diphtheria, etc.

The report of this division for the past year is especially gratifying on account of the fact that not a single case of cholera was admitted.

One woman, found dead, was reported positive by the Bureau of Science. There were 7 contacts of this case, and all were found to be cholera carriers. None of them developed any symptoms of the disease.

In the insane department the diseases encountered were acute and chronic mania, melancholia, primary, terminal, paretic and senile dementias, acute and chronic alcoholism, paranoia, epileptic and hysteric insanity, idiocy and a few other minor forms of mental disorder. The chronic insanities and dementias are the predominating diseases. The insane do considerable manual labor in the hospital and on the grounds. The women sew, make bandages, and perform similar tasks.

In the leper department a number of cases have become negative for leprosy under treatment with chaulmoogra oil. A room for men and one for women have been arranged for the isolation of cured or markedly improved cases.

During the year the steam laundry has done very satisfactory work. This is a complete plant, including disinfecting chamber, washers, wringer, mangle, starcher, drying room, etc., and also baths where many laborers for the Hawaiian sugar plantations, and emigrants for the United States are disinfected.

The two-story reinforced-concrete double building, including a house for the chief of the division and quarters for nurses, has been completed, and is a very satisfactory residence. This building adds more to the appearance of the grounds than any structure as yet erected here.

The site has been selected, and arrangements made for erecting another reinforced-concrete ward, similar to the one finished last year, which has been shown by use to be properly arranged. The wooden contagious wards have been painted, inside and out.

A plant for the manufacture of disinfectants for general use in the Bureau has been installed.

The roads have been completely surfaced with shell sand, and the court in front of the leper department is being filled with the same material, and portions recemented.

The usual work of setting out new shrubs, plants and trees, and improving the grounds has been carried on. The gardens have been very successful.

STATISTICAL DIVISION.

The division keeps the register of births, marriages and deaths in the city of Manila, and issues permits for interments, removal of dead bodies in and out of the Islands, exhumations, extensions of time for the lease of niches in Paco cemetery, and transcripts of birth and death records, and superintends admissions to the Hospicio de San José. It is also in charge of compiling the vital statistics for the city of Manila from the returns which are received, the number and comprehensiveness of which have been increasing continuously, furnishing reliable information concerning marriages, births and deaths, and also the morbidity for the most important epidemic diseases.

The tables consolidated from provincial form No. 46 are more complete than those that have been published heretofore, and include all the provinces under the civil régime with the exception of Sorsogon and Mindoro. They affect a population of approximately 6,286,339, with 179,804 deaths during the year, or a death rate of 28.60 per thousand as against 288,565 births, or a birth rate of 45.90 per thousand for the same period. Other general tables furnish information regarding the insane, the blind and the infirm. Statistics of systematic and nonsystematic vaccinations performed in the provinces and the amount of vaccine virus sent, form additional information regarding the vital statistics and prophylactic work done in the provinces. It will soon be possible to furnish statistics concerning marriages, as the necessary forms for that purpose have already been distributed.

BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners consists of Dr. A. P. Goff, president; Dr. Miguel A. Velarde, member; and Dr. Claude E. Norris, secretary treasurer. Dr. Isidoro de Santos has resigned.

The Board held the usual examinations during the year, and met from time to time as necessary.

Registrations were made as follows:

Doctors of medicine	24
Licentiates of medicine	41
Cirujanos ministrantes	9
Midwives	0
Total	74

The following table shows the amount deposited in the treasury:

Doctors of medicine, 24, at ₱30	₱720
Licentiates of medicine, 41, at ₱30	1,230
Cirujanos ministrantes, 9, at ₱10	90
Total	2,040

The expenditures were as follows:

Examination fees to Dr. Santos at rate specified in Act 310	₱120
Examination fee to Dr. Velarde at rate specified in Act 310	203
Total	323

BOARD OF PHARMACEUTICAL EXAMINERS.

The Board has held two examinations, the first on July 5, 1911, at which there were 20 applicants, and the second on January 2, 1912, at which 14 applicants were present, making in all 34 applicants for the year. Of this number 2 only obtained the required average and were issued certificates. There were issued during the year 56 apprentice certificates and 3 temporary certificates without examination.

There was collected during the year from all sources the sum of	₱1,652
The treasurer's receipts were	1,652
The disbursements were:	
Salary, secretary-treasurer	300
Fees for 2 members for 34 applicants examined, at ₱4 each	272
Total	572

LEGAL REQUIREMENTS FOR THE PRACTICE OF MEDICINE IN THE PHILIPPINE ISLANDS.

Act 310, regulating the practice of medicine and surgery in the Philippine Islands, enacted December 4, 1901, provides in effect that every person desiring to begin the practice of medicine and surgery within the jurisdiction of the law shall apply to the Board of Medical Examiners for a certificate of registration and such applicant shall submit to an examination in anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, hygiene, surgery, practice of medicine, obstetrics, diseases of women and children, diseases of the nervous system, diseases of the eye and ear, medical jurisprudence, and shall present a diploma from a medical school or college recognized as reputable by the Director of Health. These examinations may be oral or written, or both, and in case an applicant shall fail to pass a satisfactory examination, he shall not be permitted again to present himself for examination until a period of six months has elapsed.

The Board of Medical Examiners is required by law to meet in the city of Manila for the purpose of examining candidates desiring to practice medicine in the Philippine Islands on the second Tuesday of January, April, July, and October of each year.

Special examinations are frequently held to accommodate physicians who are going to the provinces or who would otherwise be inconvenienced by waiting for the regular examinations. No temporary certificates are issued.

The fee for examination as a physician, either licentiate or

doctor of medicine, is $15 (₱30), and the certificates issued by the Board must bear an internal-revenue stamp of $0.10 (₱0.20), thus making the total cost of the certificate $15.10 (₱30.20). The financial transaction does not end here. Every person holding a certificate of registration from the Board of Medical Examiners shall have it recorded in the office of the registrar of deeds in the province or provinces within which he may desire to practice or in the city of Manila, as the case may be, before engaging in the practice of medicine, surgery, or midwifery, and until such certificate is so recorded, the holder thereof shall not exercise any of the privileges to practice medicine conferred therein. The fee for recording a certificate is $1.50 (₱3) for each province in which it is registered, the fee, however, is paid but once in the same province.

After a doctor has successfully passed his examination and recorded his certificate with the registrar of deeds, he must next pay an industrial tax of $25 (₱50). This tax is collected every year but may be paid in quarterly installments. After all of this has been done, the physician may open an office.

The Board of Medical Examiners issues four kinds of certificates, one for persons holding the degree of doctor of medicine, another for persons holding the degree of licentiate of medicine, a third for cirujanos ministrantes, and a fourth for midwives.

The examination is the same for doctors and licentiates of medicine and the privileges conferred by the certificates are identical, except as to eligibility for appointment on the Board of Medical Examiners, as only doctors of medicine can serve in this capacity.

A cirujano ministrante is a person who has studied medicine in the Santo Tomas University of Manila for not less than two years and received therefrom the degree of cirujano ministrante.

A cirujano ministrante and an undergraduate of medicine are one and the same thing within the meaning of the law. In the larger municipalities, cirujanos ministrantes ussually assist physicians by administering medicine, taking the temperature and pulse, and noting any condition or change that should be brought to the attention of the medical attendant. They are the personal representatives of the physicians and remain with the patients as attendants, there being two or more employed for each case according to the financial condition of the patient.

In the remote municipalities where there are no civilian physicians, cirujanos ministrantes, better known as practicantes, are sometimes licensed by district health officers to practice

medicine after passing a "satisfactory examination" and paying the required fee of ₱10 to the provincial treasurer.

The Santo Tomas University degree of C. M. is the only C. M. degree recognized by the Medical Act. The college of Medicine and Surgery of the University of the Philippines to undergraduate students, grants only the degree of M. D. and its students are registered without examination, under an Act of the Commission but in all other respects, they are required to comply with the provisions of Act No. 310. All others must be examined since the medical law does not provide for reciprocity.

The law contemplates that no person shall practice midwifery in the Philippine Islands without first having passed a satisfactory examination before the Board of Medical Examiners and being granted a certificate of registration. This is the only registration permitted to the nonholders of a medical degree. There are many illegal practitioners of midwifery, especially in the provinces, and it is practically impossible to remedy the evil under the present conditions. It is a question of licensing a great number of incompetent people or creating an obstetric monopoly since those who can pass an examination of the simplest character are exceedingly few.

The character of medical examinations in the Philippine Islands will compare favorably with state board examinations of the United States. No literary educational test is required by Act No. 310, regulating the practice of medicine and surgery, either as preliminary to the study of medicine or in the examinations for admission to practice. Such tests are not necessary for the graduates of the Manila medical schools as practically all of them hold the degree of bachelor of arts or have had special preparation.

Medical officers of the United States Army, the United States Navy, and the United States Public Health and Marine-Hospital Service are exempt from the operations of the Medical Law in so far as examinations are concerned.

BOARD OF DENTAL EXAMINERS.

Examinations were held in July and December, 1911, as prescribed by Act 593 and fourteen candidates were examined. Six were examined in July for undergraduate certificates but only one made the necessary proficiency required by the Board.

In December there were eight candidates examined, seven for undergraduate's certificate and one for certificate of registra-

tion as a graduate dentist. Five of the seven were those who had failed to make the necessary proficiency in the July examination.

The board took favorable action on these eight candidates and issued them their respective certificates.

The sum of one hundred and fifty pesos was collected and paid into the Treasury of the Philippine Islands, as follows:

13 undergraduates, at ₱10	₱130
1 graduate at ₱20	20
Total	150

FINANCES.

The Bureau of Health, at the beginning of the fiscal year, had funds available to the amount of ₱1,593,352.22, of which ₱50,342.45 and ₱126,009.77 were carried from last appropriation for accounts payable and contingent obligations, and ₱1,417,000 was Bureau of Health allotment for fiscal year 1912. The income of the Bureau of Health for the year is approximately ₱260,000, giving an available total of approximately ₱1,853,352.22.

The expenditures during the year are ₱1,656,267.48 with the liabilities of approximately ₱190,000.

A complete financial statement will be found in the appendix.

RECOMMENDATIONS.

1. Legislative authority to abate nuisances on private property, and to make the cost thereof a lien against the property.

2. Restoration of the privilege to purchase medical and surgical supplies in the open market. Under the present system prompt relief for the sick is often unnecessarily delayed, which is a responsibility which should not have to be assumed.

3. The construction of additional provincial hospitals, especially in remote sections like the Cagayan Valley, the east coast of Luzon and other places.

4. An adequate appropriation to continue the construction work at the Culion leper colony.

5. A tax upon polished rice in order to discourage its consumption. The accomplishment of this object would probably result in five thousand deaths less annually.

Respectfully submitted.

VICTOR G. HEISER,
Passed Assistant Surgeon,
U. S. Public Health and Marine-Hospital Service,
Director of Health.

The Honorable the SECRETARY OF THE INTERIOR,
Manila, P. I.

STATISTICAL TABLES—BUREAU OF HEALTH

JULY 1, 1911 TO JUNE 30, 1912.

GENERAL STATISTICS.

[Unless otherwise stated, these statistics are for the fiscal year ended June 30, 1912.]

POPULATION OF THE CITY OF MANILA.

[Health census of 1910.]

Nationalities.	Population.	Nationalities.	Population.
Americans	4,174	Chinese	14,098
Filipinos	211,859	All others	1,275
Spaniards	2,364		
Other Europeans	644	Total	234,409

MARRIAGES.[a]

	Nationalities.						
	Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	All others.	Total.
Total marriages	81	1,974	.....	13	70	2	2,140
Health districts:							
No. 1	48	200	.....	6	2	.....	256
No. 2	8	917	.....	3	48	1	977
No. 4	5	194	.....	.....	.....	1	200
No. 5	17	599	.....	3	19	.....	638
No. 6	3	64	.....	1	1	.....	69
Single males married—							
Single females	72	1,618	.....	10	50	2	1,752
Widowed females	4	132	.....	3	6	.....	145
Divorced females	2	.....	.....	.....	.....	.....	2
Widowed males married—							
Single females	.....	130	.....	.....	13	.....	143
Widowed females	2	94	.....	.....	1	.....	97
Divorced females	.....	.....	.....	.....	.....	.....	.....
Divorced males married—							
Single females	.....	.....	.....	.....	.....	.....	.....
Widowed females	1	.....	.....	.....	.....	.....	1
Divorced females	.....	.....	.....	.....	.....	.....	.....
Nationality of brides:							
Americans	48	.....	.....	1	.....	.....	49
Filipinos	25	1,973	.....	6	67	2	2,073
Spaniards	.....	1	.....	.....	.....	.....	1
Other Europeans	8	.....	.....	6	.....	.....	14
Chinese	.....	.....	.....	.....	2	.....	2
All others	.....	.....	.....	.....	1	.....	1
Relationship:							
Blood	.....	7	.....	.....	.....	.....	7
Affinity	.....	.....	.....	.....	.....	.....	.....

[a] Registration incomplete.

Average per thousand population, 18.25.

MARRIAGES BY AGE.[a]

Males.		Females.						
Ages.	Number.	To 14 years.	To 20 years.	To 25 years.	To 30 years.	To 40 years.	To 50 years.	Over 50 years.
To 14 years								
To 20 years	648	1	565	70	9	3		
To 25 years	850	2	568	234	33	13		
To 30 years	302		142	99	49	11	1	
To 40 years	260		84	64	55	50	6	1
To 50 years	50		6	12	8	18	4	2
Over 50 years	30		3	1	3	10	3	5
Total	2,140	3	1,368	480	157	105	19	8

[a] Registration incomplete.

BIRTHS REPORTED.[a]

Nationalities.	Male.	Female.	Total.	Annual average per 1,000.
Americans	66	70	136	32.58
Filipinos	4,801	4,306	9,107	42.98
Spaniards	19	16	35	14.80
Other Europeans	15	12	27	41.92
Chinese	17	12	29	2.05
All others	5	1	6	4.70
Total and average	4,923	4,117	9,340	39.84

[a] Registration incomplete.

BIRTHS, BY DISTRICTS.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	585	562	1,147	32	30	62	1,209
No. 2, Meisic	1,084	987	2,021	66	64	130	2,151
No. 4, Sampaloc	887	820	1,707	91	76	167	1,874
No. 5, Tondo	1,508	1,300	2,808	92	87	179	2,982
No. 6, Paco	563	521	1,084	20	20	40	1,124
Total	4,622	4,140	8,762	301	277	578	9,340

BIRTHS, BY DISTRICTS, AND ANNUAL BIRTHRATE PER 1,000.

Health districts.	Population.	Deaths.	Annual rate per 1,000
No. 1, Intramuros	29,744	1,209	40.64
No. 2, Meisic	82,771	2,151	25.98
No. 4, Sampaloc	37,697	1,874	49.71
No. 5, Tondo	62,354	2,982	47.82
No. 6, Paco	21,843	1,124	51.45
Total and average	234,409	9,340	39.84

BIRTHS, BY DISTRICTS, ACCORDING TO NUMBER OF CHILDREN BORNE BY MOTHER.

Number of births, in the order in which the child was born, whether first child, second child, etc.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.	Living.	Still born.
First	335	17	574	16	374	10	678	28	227	10	2,188	81
Second	196	8	423	10	358	12	522	15	196	2	1,700	47
Third	202	10	335	23	289	8	455	8	189	3	1,470	47
Fourth	133	11	244	8	262	1	358	12	142	2	1,139	34
Fifth	98	9	181	2	199	9	278	8	124	3	880	31
Sixth	70	9	121	4	129	1	233	7	74	6	627	27
Seventh	61	2	87	8	91	7	137	4	64	1	440	22
Eighth	39	2	65	4	60	1	126	2	33	2	323	11
Ninth	21	5	46	1	36	5	62	4	28	------	193	15
Tenth	22	3	24	------	27	1	47	5	9	3	129	12
Eleventh	13	3	18	------	17	1	30	4	14	------	92	8
Twelfth	11	------	13	2	14	------	28	1	15	------	81	3
Thirteenth	2	1	4	------	11	------	15	2	4	------	36	3
Fourteenth	4	------	6	2	2	------	7	------	2	------	21	2
Fifteenth	1	------	4	------	1	------	4	------	1	------	11	------
Sixteenth	------	------	1	------	3	------	2	------	------	------	6	------
Seventeenth	1	------	------	------	------	------	------	------	1	1	2	1
Eighteenth	------	------	------	------	------	------	------	------	1	------	1	------
Twenty-first	------	------	------	------	1	------	------	------	------	------	1	------
Total	1,209	80	2,151	80	1,874	51	2,982	100	1,124	33	9,340	344

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, BY NATIONALITIES.

Nationalities.	Number of deaths.	Annual average per 1,000.	Nationalities.	Number of deaths.	Annual average per 1,000.
Americans	69	16.53	Chinese	276	19.58
Filipinos	8,215	38.77	All others	15	11.76
Spaniards	40	16.92			
Other Europeans	18	27.95	Total and average	8,633	36.82

A CLASSIFIED REPORT OF ALL DEATHS OCCURRING IN MANILA, INCLUDING TRANSIENTS.

	Married.	Divorced.	Widowed.	Single.	Children.	Condition not stated.	Total.
Males	1,001	----------	322	547	3,228	61	5,159
Females	709	----------	550	184	2,662	21	4,126
Grand total	----------	----------	----------	----------	----------	----------	9,285
Stillbirths	----------	----------	----------	----------	----------	----------	347
Deaths:							
With medical attendance	----------	----------	----------	----------	----------	----------	5,386
Without medical attendance	----------	----------	----------	----------	----------	----------	3,899

DEATHS, BY AGES.

	Residents.	Transients.	Total.		Residents.	Transients.	Total.
Under 30 days	919	15	934	40 years to 50 years	488	70	558
30 days to 1 year	2,987	124	3,061	50 years to 60 years	366	39	405
1 year to 2 years	739	48	787	60 years to 70 years	319	35	354
2 years to 5 years	757	33	790	70 years to 80 years	230	15	245
5 years to 10 years	235	15	250	80 years to 90 years	198	6	204
10 years to 15 years	77	6	83	90 years to 100 years	97	2	99
15 years to 20 years	152	18	170	Over 100 years	50	----	50
20 years to 25 years	225	46	271	Unknown	16	7	23
25 years to 30 years	280	63	343				
30 years to 40 years	548	110	658	Total	8,683	632	9,235

DEATHS, BY DISTRICTS, INCLUDING TRANSIENTS.

Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,206	43.90
No. 2, Meisic	82,771	2,274	27.47
No. 4, Sampaloc	37,697	1,435	38.06
No. 5, Tondo	62,354	3,480	55.81
No. 6, Paco	21,843	790	36.16
Total and average	234,409	9,235	39.61

COMPARATIVE MORTALITY FROM JANUARY, 1901, TO JUNE, 1912, INCLUSIVE.

Years.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.
1901	753	[a]26.25	760	[a]26.72	885	[a]42.60	886	[a]44.07	903	[a]43.47	621	[a]30.89	608	[a]29.27	702	[a]33.79	767	[a]38.15	855	[a]41.16	448	[a]42.18	858	[a]41.30	9,375	[a]38.30
1902	760	[a]26.58	706	[a]37.63	770	[a]37.06	1,327	[a]66.01	1,688	[a]81.26	1,418	[a]70.54	2,223	[a]107.02	1,712	[a]82.41	1,132	[a]56.31	927	[a]44.62	1,085	[a]51.48	753	[a]36.25	14,451	[a]59.04
1903	602	[a]28.98	511	[a]27.23	539	[a]25.94	549	[a]27.31	770	[a]37.06	592	[a]29.45	620	[b]33.51	862	[b]46.17	1,228	[b]67.97	1,217	[b]65.19	974	[b]53.91	894	[b]47.39	9,358	[b]40.27
1904	796	[b]42.64	709	[b]40.59	751	[b]40.23	748	[b]41.40	766	[b]41.03	800	[b]44.28	866	[b]46.39	1,082	[d]55.28	1,064	[b]58.89	1,018	[b]54.53	957	[b]52.97	794	[b]42.53	10,301	[b]46.83
1905	685	[b]36.69	608	[b]36.05	563	[b]30.15	530	[b]29.33	526	[b]28.17	598	[b]32.82	747	[b]40.01	841	[b]45.05	1,013	[b]56.07	850	[b]45.53	944	[b]52.25	841	[b]45.05	8,741	[b]39.74
1906	737	[b]39.48	595	[b]35.28	600	[b]32.14	555	[b]30.72	600	[b]32.14	698	[b]38.36	1,451	[b]77.72	1,182	[b]63.31	835	[b]46.22	684	[b]36.64	653	[b]36.14	597	[b]31.98	9,182	[b]41.73
1907	632	[c]33.31	473	[c]27.60	464	[c]24.45	416	[c]22.65	462	[c]24.35	402	[c]21.89	515	[c]27.14	653	[c]34.41	768	[c]41.82	877	[c]46.22	725	[c]39.48	900	[c]47.43	7,287	[c]32.59
1908	1,117	[c]58.87	783	[c]41.29	720	[c]37.94	626	[c]34.09	633	[c]33.36	678	[c]36.92	977	[c]51.49	1,148	[c]60.50	1,362	[c]74.17	991	[c]52.23	837	[c]45.58	824	[c]43.42	10,646	[c]47.62
1909	720	[c]37.94	616	[c]35.94	618	[c]32.57	550	[c]29.95	544	[c]28.67	552	[c]30.06	691	[c]36.41	679	[c]35.78	649	[c]35.34	700	[c]36.89	778	[c]42.37	839	[c]44.21	7,936	[c]35.50
1910	729	[d]36.64	638	[d]35.50	942	[d]52.26	594	[d]30.85	604	[d]20.35	646	[d]33.55	799	[d]40.15	731	[d]36.74	664	[d]34.43	705	[d]35.43	642	[d]33.34	635	[d]31.91	8,029	[d]34.25
1911	653	[d]32.82	536	[d]29.82	574	[d]28.85	547	[d]28.40	609	[d]30.60	698	[d]35.99	830	[d]41.71	878	[d]44.13	741	[d]38.43	686	[d]34.48	782	[d]40.61	698	[d]35.08	8,227	[d]35.09
1912	698	[d]35.09	611	[d]32.82	732	[d]36.79	671	[d]34.85	701	[d]35.23	605	[d]31.42														

[a] Death rate computed on population of 244,732 (Health Department's census).
[b] Death rate computed on population of 219,941 (Official census, 1903).
[c] Death rate computed on population of 223,542 (Health census, 1907).
[d] Death rate computed on population of 234,409 (Health census, 1910).

MORTALITY COMPARED WITH SAME PERIOD OF PREVIOUS YEARS.

Years.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1901	2,327	38.58	2,410	39.52	2,077	33.69	2,561	41.54
1902	2,236	37.07	4,433	72.70	5,067	82.19	2,715	44.04
1903	1,652	27.39	1,911	31.34	2,710	43.91	3,085	55.88
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,759	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,982	35.64	1,848	33.72	3,468	62.59	1,984	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.43
1908	2,570	46.14	1,937	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55	2,019	35.85	2,317	41.14
1910	2,009	34.78	1,844	31.57	2,194	37.15	1,982	33.56
1911	1,764	30.52	1,849	31.65	2,449	41.47	2,166	36.68
1912	2,041	34.94	1,977	33.85				

NUMBER OF DEATHS, WITH CAUSES, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA (STILL BIRTHS NOT INCLUDED).

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.													
1. Typhoid fever	2	---	25	23	---	---	---	---	---	---	1	---	51
4. Malaria	---	---	48	30	---	---	---	---	6	---	3	---	87
4a. Malarial cachexia	---	---	2	3	---	---	---	---	1	---	---	---	6
6. Measles	---	---	8	6	---	---	---	---	---	---	---	---	14
8. Whooping cough	---	1	6	2	---	---	---	---	---	---	---	---	9
9. Diphtheria and croup	---	---	7	8	---	---	---	---	---	---	---	---	15
10. Influenza	---	---	12	10	---	---	---	---	---	---	---	---	22
12. Asiatic cholera	---	---	---	1	---	---	---	---	---	---	---	---	1
14. Dysentery	2	1	156	131	2	3	2	1	1	---	1	1	301
15. Plague	---	---	1	1	---	---	---	---	---	---	---	---	2
17. Leprosy	1	---	4	3	---	---	---	---	---	---	---	---	8
18. Erysipelas	---	---	9	1	---	---	---	---	---	---	---	---	10
20. Purulent infection and septichæmia	1	---	14	7	---	1	---	---	1	---	---	---	24
22. Anthrax	---	---	1	1	---	---	---	---	---	---	---	---	2
24. Tetanus	2	---	71	40	---	---	---	---	4	---	---	---	117
27. Beriberi	---	---	643	528	---	---	---	---	38	---	---	---	1,209
28. Tuberculosis of the lungs	3	2	569	549	3	2	2	---	71	2	2	1	1,206
29. Acute miliary tuberculosis	---	---	1	---	---	---	---	---	---	---	---	---	1
30. Tuberculous meningitis	1	---	27	26	---	---	---	---	---	---	1	---	55
31. Abdominal tuberculosis	---	---	15	19	---	---	---	---	---	---	---	---	34
32. Pott's disease	---	---	2	3	---	---	---	---	---	---	---	---	5
33. White swellings	---	---	---	1	---	---	---	---	---	---	---	---	1
34. Tuberculosis of other organs	---	---	8	4	---	---	---	---	---	---	---	---	12
35. Disseminated tuberculosis	---	---	6	6	---	---	---	---	---	---	---	---	12
36. Rickets	---	---	4	7	---	---	---	---	1	---	---	---	12
37. Syphilis	---	1	2	---	---	---	---	---	2	---	---	---	5
39. Cancer and other malignant tumors of the buccal cavity	---	---	7	1	1	---	---	---	1	---	---	---	10
40. Cancer and other malignant tumors of the stomach, liver	---	---	7	3	---	---	---	---	1	---	---	---	11
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum	---	---	1	1	---	---	---	---	---	---	---	---	2
42. Cancer and other malignan tumors of the female genital organs	---	---	---	12	---	1	---	---	---	---	---	---	13
43. Cancer and other malignant tumors of the breast	---	---	---	8	---	---	---	---	---	---	---	---	8
44. Cancer and other malignant tumors of the skin	---	---	1	1	---	---	---	---	---	---	---	---	2
45. Cancer and other malignant tumors of other organs and of organs not specified	---	---	7	9	---	---	---	---	1	---	---	---	17
46. Other tumors (tumors of the female genital organs excepted)	---	---	1	---	---	---	---	---	---	---	---	---	1
47. Acute articular rheumatism	---	---	2	8	---	---	---	---	---	---	---	---	10
48. Chronic rheumatism and gout	---	---	9	6	---	---	---	---	---	---	---	---	15
49. Scurvy	---	---	---	1	---	---	---	---	---	---	---	---	1
50. Diabetes	---	---	2	5	---	---	---	---	---	---	---	---	7
51. Exophthalmic goitre	---	---	---	3	---	---	---	---	---	---	---	---	3

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases—Continued.													
54. Anemia, chlorosis			1	3									4
55. Other general diseases			1										1
56. Alcoholism (acute or chronic)	2												2
59. Other chronic poisonings									6				6
II. Diseases of the nervous system and of organs of special sense.													
60. Encephalitis			2	1									3
61. Simple meningitis	3		107	78				1		1	1		191
61a. Meningitis, cerebro-spinal, epidemic			1										1
62. Locomotor ataxia			1	2					3				6
63. Other diseases of the spinal cord			1	2					1			1	5
64. Cerebral hæmorrhage, apoplexy	3		39	44	1				2				89
65. Softening of the brain			3	1					10				14
66. Paralysis without specified cause	1		8	17					4				30
67. General paralysis of the insane	1		4	2									7
68. Other forms of mental alienation			21	5					1				27
69. Epilepsy			1	2									3
70. Convulsions (nonpuerperal)			1	1									2
71. Convulsions of infants			278	242					4	4			528
74. Other diseases of the nervous system			2		1								3
75. Other diseases of the eyes and their annexa			1										1
76. Diseases of the ears				4									4
III. Diseases of the circulatory system.													
77. Pericarditis	1		3										4
78. Acute endocarditis			15	16					2				33
79. Organic diseases of the heart	4		54	46	2	1	1	1	29				138
80. Angina pectoris			5	7	1								13
81. Diseases of the arteries, atheroma, aneurysm, etc	2		13	9	3				3				30
82. Embolism and thrombosis			1	4	1								6
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	1		1	1									3
84. Diseases of the lymphatic system (lymphangitis, etc.)			1	2									3
85. Hæmorrhage; other diseases of the circulatory system.		1	2	3									6
IV. Diseases of the respiratory system.													
87. Diseases of the larynx			1										1
88. Diseases of the thyroid body									1				1
89. Acute bronchitis			420	397					3	1			821
90. Chronic bronchitis	1		169	157	1	1			20	1			350
91. Broncho-pneumonia	1	1	131	98					3				234
92. Pneumonia	2		73	39					4				118
93. Pleurisy			6	6									12
94. Pulmonary congestion, pulmonary apoplexy			5	2	1			1					9
95. Gangrene of the lungs			1										1
96. Asthma			12	15	1								28
97. Pulmonary emphysema			2	2									4
98. Other diseases of the respiratory system (tuberculosis excepted)			1										1
V. Diseases of the digestive system.													
99. Diseases of the mouth and adnexa			2	1	1								4
101. Diseases of the esophagus				1					4				5
102. Ulcer of the stomach			4	3	1								8
103. Other diseases of the stomach (cancer excepted)			9	11				1					21
104. Diarrhœa and enteritis (under 2 years)	3	1	274	202				1	2	1	1		485
105. Diarrhœa and enteritis (2 years and over)		1	122	112	1				3				239
107. Intestinal parasites			6	8									14
108. Appendicitis and typhlitis	2		6	4									12
109. Hernias, intestinal obstructions	1		11	6		1			1				20
110. Other diseases of the intestine			4	7		1	1						13
111. Acute yellow atrophy of the liver			15	8					1				24
113. Cirrhosis of the liver	1		12	9	2				4				28

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system—Ctd.													
114. Biliary calculi			3	3									6
115. Other diseases of the liver	1		11	7									19
117. Simple peritonitis (nonpuerperal)			14	5	2								21
118. Other diseases of the digestive system (cancer and tuberculosis excepted)			1										1
VI. Nonvenereal diseases of the genito-urinary system and adnexa.													
119. Acute nephritis	1		20	29			1						51
120. Bright's disease	3	1	48	63	1		2		2				120
121. Chyluria			1										1
122. Other diseases of the kidneys and annexa			2	5									7
123. Calculi of the urinary passages			1	1									2
124. Diseases of the bladder			5	1									6
130. Other diseases of the uterus				1									1
131. Cysts and other tumors of the ovary				2									2
VII. The puerperal state.													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				21									21
136. Other accidents of labor				4									4
137. Puerperal septichæmia				31									31
138. Puerperal albuminuria and convulsions				4									4
140. Following childbirth (not otherwise defined)				2									2
VIII. Diseases of the skin and of the cellular tissue.													
142. Gangrene			6	2									8
143. Furuncle			2	2									4
144. Acute abscess			1	5									6
145. Other diseases of the skin and annexa			1	1									2
IX. Diseases of the bones and of the organs of locomotion.													
146. Diseases of the bones (tuberculosis excepted)			3	2					2				7
X. Malformations.													
150. Congenital malformations (stillbirths not included)			2	10									12
XI. Diseases of early infancy.													
151. Congenital debility, icterus, and sclerema	2	2	453	389			2	1	1	1			801
152. Other diseases peculiar to early infancy			12	5									17
153. Lack of care		1	10	10									21
XII. Old age.													
154. Senility			127	220	1	1			1				350
XIII. Affections caused by external causes.													
155. Suicide by poison	1		2										3
157. Suicide by hanging or strangulation									1				1
159. Suicide by firearms	1												1
160. Suicide by cutting or piercing instruments			2										2
165b. Other acute poisonings			4	1	1								6
166. Conflagration			1	1									2
167. Burns (conflagration excepted)			9	7					1	1			18
168. Absorption of deleterious gases (conflagration excepted)				1									1
169. Accidental drowning			9	2					7		1		19
170. Traumatism by firearms	2		1										3
171. Traumatism by cutting or piercing instruments			8	2					3				13
172. Traumatism by fall			1										1
174. Traumatism by machines			1										1

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
XIII. Affections caused by external causes—Ctd.													
175. Traumatism by other crushing (vehicles, railroad, landslides, etc.)	1		8	4					1				14
181. Electricity (lightning excepted)			2										2
183. Homicide by cutting or piercing instrument			1	4					1				6
185. Fractures (cause not specified)	1		9	4					2		1		17
186. Other external violence			4	2									6
XIV. Ill-defined diseases.													
188. Sudden death			1										1
189. Cause of death not specified or ill-defined	1	1	26	20					3				51
Total	55	14	4,343	3,872	28	12	11	7	264	12	12	3	8,633
Grand total	69		8,215		40		18		276		15		8,633

NUMBER OF DEATHS, WITH CAUSES, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED).

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.													
1. Typhoid fever			1	2					1			1	5
4. Malaria			6	4					1		4		15
6. Measles			5	4									9
9. Diphtheria and croup				2									2
10. Influenza			1										1
14. Dysentery	1	1	7	7							2	1	19
17. Leprosy			5	2									7
18. Erysipelas			1										1
20. Purulent infection and septichæmia				1					1		1		3
24. Tetanus			6	2					1		1		10
27. Beriberi			22	11					1				34
28. Tuberculosis of the lungs	1		115	25	1		2		8		1		153
29. Acute miliary tuberculosis			1										1
30. Tuberculous meningitis			2	1									3
31. Abdominal tuberculosis			5	1								1	7
35. Disseminated tuberculosis		1	5	1									7
37. Syphilis			1										1
39. Cancer and other malignant tumors of the buccal cavity			1	1			1						3
40. Cancer and other malignant tumors of the stomach or liver	1		1	1	1								4
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum			2										2
42. Cancer and other malignant tumors of the female genital organs				4									4
44. Cancer and other malignant tumors of the skin			1										1
45. Cancer and other malignant tumors of other organs and of organs not specified			3				1						4
47. Acute articular rheumatism			1										1
49. Scurvy			1										1
51. Exophthalmic goiter				1									1
54. Anemia, clorosis			1	1									2
II. Diseases of the nervous system and of organs of special sense.													
61. Simple meningitis	1		7	6									14
63. Other diseases of the spinal cord			2										2
64. Cerebral hæmorrhage, apoplexy	2			3									5
66. Paralysis without specified cause			2										2
68. Other forms of mental alienation			8	3									11
69. Epilepsy			1										1
71. Convulsions of infants			22	13									35
76. Diseases of the ears									1				1
III. Diseases of the circulatory system.													
78. Acute endocarditis		1						1					2
79. Organic diseases of the heart			11	6			1						18
80. Angina pectoris			1										1
81. Diseases of the arteries, atheroma, aneurysm, etc	2	1	2		1				1				7
82. Embolism and thrombosis				1									1
84. Diseases of the lymphatic system (lymphangitis, etc)			1										1
IV. Diseases of the respiratory system.													
89. Acute bronchitis			18	18								1	37
90. Chronic bronchitis			11	16					1				28
91. Broncho-pneumonia	1		2	4									7
92. Pneumonia			14	3					1				18
93. Pleurisy			2										2
94. Pulmonary congestion, pulmonary apoplexy			1										1
95. Gangrene of the lungs			3										3
98. Other diseases of the respiratory system (tuberculosis excepted)			3										3

Number of deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.													
100. Diseases of the pharynx			1										1
102. Ulcer of the stomach	1			1									2
103. Other diseases of the stomach (cancer excepted)			1										1
104. Diarrhea and enteritis (under 2 years)		1	12	12					1			1	27
105. Diarrhea and enteritis (2 years and over)			4	12					2		1		19
107. Intestinal parasites			1										1
108. Appendicitis and typhlitis			1						1		1		3
109. Hernias, intestinal obstructions			4								1		5
110. Other diseases of the intestine											1		1
114. Biliary calculi			1						1				2
115. Other diseases of the liver	1		2	1					1		1		6
117. Simple peritonitis (nonpuerperal)			3	2			2						5
VI. Nonvenereal diseases of the genito-urinary system and adnexa.													
119. Acute nephritis			4	1									5
120. Bright's disease	1		9	8									18
122. Other diseases of the kidneys and annexa			3										3
123. Calculi of the urinary passages			1										1
VII. The puerperal state.													
136. Other accidents of labor				1									1
137. Puerperal septichæmia				1									1
VIII. Diseases of the skin and of the cellular tissue.													
144. Acute abscess			2	1									3
XI. Diseases of early infancy.													
151. Congenital debility, icterus, and sclerema	1		1	5									7
152. Other diseases peculiar to early infancy				1									1
153. Lack of care			2	2									4
XII. Old age.													
154. Senility			2	4									6
XIII. Affections caused by external causes.													
155. Suicide by poison							1						1
161. Suicide by jumping from a high place							1						1
165b. Other acute poisonings		1	1										2
167. Burns (conflagration excepted)			2	2									4
169. Accidental drowning	1												1
171. Traumatism by cutting or piercing instruments			1			1							2
175. Traumatism by other crushing (vehicles, railroad, landslides, etc.)			1										1
183. Homicide by cutting or piercing instruments				1									1
185. Fractures (cause not specified)	1		1										2
186. Other external violence			9										9
XIV. Ill-defined diseases.													
189. Cause of death not specified or ill-defined			4	1					2				7
Total	15	6	378	195	3	1	9	1	25		14	5	652
Grand total	21		573		4		10		25		19		652

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE.

Causes of death.	Less than 1 day to 30 days.												From 30 days to 1 year.												From 1 year to 5 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever													1														2	3								
4. Malaria															1												9	7								
6. Measles															5	1											6	9								
8. Whooping cough															3	1										1	3	1								
9. Diphtheria and croup															1												5	5								
10. Influenza															4	5											3	2								
14. Dysentery															15	10									1		89	76			1	1	1		1	
18. Erysipelas			2												5												2									
20. Purulent infection and septichæmia															4	4											3	3								
24. Tetanus			57	36																					1		2	1								
27. Beriberi			28	20											561	430					1						26	32								
28. Tuberculosis of the lungs															4												48	56								
29. Acute miliary tuberculosis															1																					
30. Tuberculous meningitis													1		7	4							1				18	12								
31. Abdominal tuberculosis															1												4	6								
32. Pott's disease																											1	2								
34. Tuberculosis of other organs															1												1	1								
35. Disseminated tuberculosis																												3								
36. Rickets															3	4											1	3					1			
37. Syphilis														1	1																					
46. Other tumors (tumors of the female genital organs excepted)															1																					
47. Acute articular rheumatism																1																				
II. Diseases of the nervous system and of the organs of special sense.																																				
60. Encephalitis																											1									
61. Simple meningitis			1	1									1		53	38					1		1		2		44	37								
64. Cerebral hæmorrhage, apoplexy				1											1	1												1								
71. Convulsions of infants			63	50						2					223	196					4	2					14	9								
76. Diseases of the ears																1												2								

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.												From 30 days to 1 year.												From 1 year to 5 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of bones (tuberculosis excepted)																											1	1								
X. Malformations.																																				
150. Congenital malformations (stillbirths not included)			1	6											1	4																				
XI. Diseases of early infancy.																																				
151. Congenital debility, icterus and sclerema	3	2	324	241			2	1	1	1					129	102											1	1								
152. Other diseases peculiar to early infancy			11	5											1	1																				
153. Lack of care			5											1	6	11											1	1								
XIII. Affections caused by external causes.																																				
160. Suicide by cutting or piercing instruments																																				
165b. Other acute poisonings																											1									
166. Conflagration															1																					
167. Burns (conflagration excepted)																					1						5	3					1			
169. Accidental drowning																											2	1								
175. Traumatism by other crushing (vehicles, railroad landsides, etc.)																											1	2								
185. Fractures (cause not specified)															1												1									
XIV. Ill-defined diseases.																																				
189. Cause of death not specified or ill-defined				1											13	5										1	9	11								
Total	3	3	530	387			3	3	1	4			8	4	1,715	1,316				1	10	3	3	1	5	4	770	785			1	2	6	2	1	
Grand total	6		917				6		5				12		3,031				1		13		4		9		1,555			3		8		1	

Causes of death.	From 5 to 10 years.												From 10 to 15 years.												From 15 to 20 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever			2	5											1	2											11	7								
4. Malaria			6	3							1				4	2											3	1								
6. Measles			1																																	
9. Diphtheria			1	3																																
10. Influenza			1	1																							1									
14. Dysentery			24	19		1									7	3	1										4	1								
15. Plague																											1									
18. Erysipelas				1																																
20. Purulent infection septichæmia																											2									
22. Anthrax																1																				
24. Tetanus			4	1									1		2												2									
27. Beriberi			3	6											4	3											9	5								
28. Tuberculosis of the lungs			20	20											8	8											36	17								
30. Tuberculous meningitis				3											1	1											2									
31. Abdominal tuberculosis			1	2											1												2	3								
32. Pott's disease															1																					
33. White swellings																												1								
34. Tuberculosis of other organs			1	1											1												1									
35. Disseminated tuberculosis			3	2											1																					
37. Syphilis																											1									
39. Cancer and other malignant tumors of the buccal cavity																											1									
42. Cancer and other malignant tumors of the female genital organs																												1								
47. Acute articular rheumatism				1																																
54. Anemia, chlorosis																												1								
55. Other general diseases																											1									
II. Diseases of the nervous system and of the organs of special sense.																																				
60. Encephalitis			1													1																				
61. Simple meningitis			8	6						1					1												4	1								
61a. Cerebro-spinal fever			1																																	
63. Other diseases of the spinal cord																																1				
64. Cerebral hæmorrhage, apoplexy																												1								

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 5 to 10 years.												From 10 to 15 years.												From 15 to 20 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
69. Epilepsy			1	1																																
70. Convulsions (nonpuerperal)			1	1																																
75. Other diseases of the eyes and their annexa															1																					
III. Diseases of the circulatory system.																																				
78. Acute endocarditis			1												1	2											2					1				
79. Organic diseases of the heart			3													1											5	3								
IV. Diseases of the respiratory system.																																				
89. Acute bronchitis			5	7																																
90. Chronic bronchitis			2	7																																
91. Broncho-pneumonia			7	4					2						1	1											1	1								
92. Pneumonia			1	2					1						2												3	2				1				
V. Diseases of the digestive system.																																				
105. Diarrhœa and enteritis (2 years and over)			15	8											2	2					1														1	
107. Intestinal parasites			4	4																																
108. Appendicitis and typhlitis																											1									
109. Hernias, intestinal obstructions																1																				
110. Other diseases of the intestines																1		1																		
111. Acute yellow atrophy of the liver				1																																
114. Biliary calculi			1												1												2									
117. Simple peritonitis (nonpuerperal)																											1									
118. Other diseases of the digestive system (cancer and tuberculosis excepted)																																				
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																				
119. Acute nephritis			1	1												1												1								
120. Bright's disease			3	2											2												1	2								
131. Cysts and other tumors of the ovary																												1								

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 20 to 25 years.														From 25 to 30 years.														From 30 to 35 years.													
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others				Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others				Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others			
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
I. General diseases.																																										
1. Typhoid fever			4	1					1		1						3	1													3	2										
4. Malaria			6						1		2						5	6													4	3					1					
4a. Malaria cachexia																	1	1													1	1										
6. Measles																															1											
9. Diphtheria and croup				1																												1										
14. Dysentery			2	4								1			1	1	4	4													1	2										
17. Leprosy			1														1														4	1										
20. Purulent infection and septichæmia				1							1							1		1									1		1											
24. Tetanus				1													3														1						1					
27. Beriberi			1	6					2								7	5					1								4	8					6					
28. Tuberculosis of the lungs		1	69	47					3								76	79	1				1	1	1				2	1	65	71		2	1		11	1			1	
29. Acute miliary tuberculosis																	1																									
30. Tuberculous meningitis																		1													1											
31. Abdominal tuberculosis			1	1														2													1	2										
32. Pott's disease																																1										
34. Tuberculosis of other organs			1																																							
35. Disseminated tuberculosis			2																												1											
39. Cancer and other malignant tumors of the buccal cavity																																					1					
40. Cancer and other malignant tumors of the stomach, liver																	1														2											
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum																															2											
42. Cancer and other malignant tumors of the female genital organs				1														1														1										
43. Cancer and other malignant tumors of the breast																																1										
45. Cancer and other malignant tumors of the organs and of organs not specified			2															1													1											
47. Acute articular rheumatism																	1														1	1										
48. Chronic rheumatism and gout			1															1																									
49. Scurvy																	1	1																									
50. Diabetes				1																																						
51. Exopthalmic goiter																		1														1											

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 20 to 25 years.												From 25 to 30 years.												From 30 to 35 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
VI. Nonvenereal diseases of the genito urinary system and annexa.																																				
119. Acute nephritis			3	3											1	2									1		2	2								
120. Bright's diseases			2	1											2	3											2	2								
122. Other diseases of the kidneys and annexa.				1																								1								
124. Diseases of the bladder																											1									
VII. The puerperal state.																																				
134. Accidents of pregnancy				1																																
135. Puerperal hæmorrhage				5												10												1								
136. Other accidents of labor																4																				
137. Puerperal septicemia				5												9												7								
138. Puerperal albuminuria and convulsions				2												2																				
VIII. Diseases of the skin and of the cellular tissue.																																				
142. Gangrene																											1									
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of bones (tuberculosis excepted)									1																								1			
XIII. Affections caused by external causes.																																				
155. Suicide by poison	1														1																					
157. Suicide by hanging or strangulation																																	1			
159. Suicide by firearms																									1											
160. Suicide by cutting or piercing instruments			1												1																					
165b. Other acute poisonings			1											1												1										
167. Burns (conflagration excepted)			2												1	2																				

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 35 to 40 years.												From 40 to 45 years.												From 45 to 50 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever	1																																			
4. Malaria			3	3					3		2				2	3					2						5									
4a. Malaria cachexia									1																											
14. Dysentery		1	3	3	1		1								2	3							1				2	2		1					1	
15. Plague																1																				
17. Leprosy	1		1																									1								
20. Purulent infection and septichæmia			2						1																							1				
24. Tetanus			2	1					2		1				1						1											1				
27. Beriberi			1	3					6						8	7					5						2					11				
28. Tuberculosis of the lungs	1		73	59	1				18		2		1		67	48	1		1		14						50	35				15				
30. Tuberculous meningitis				2												2																				
31. Abdominal tuberculosis			1												5	1							1				1									
34. Tuberculosis of other organs			1	2											1																					
35. Disseminated tuberculosis			2																							1										
37. Syphilis			1																																	
39. Cancer and other malignant tumors of the buccal cavity				1																																
40. Cancer and other malignant tumors of the stomach, liver				2																	1						2		1							
42. Cancer and other malignant tumors of the female genital organs																4												3								
43. Cancer and other malignant tumors of the breast																1																				
45. Cancer and other malignant tumors of other organs and of organs not specified															2	1												2								
47. Acute articular rheumatism				1																																
48. Chronic rheumatism and gout			1																																	
51. Exopthalmic goitre																												2								
54. Anæmia, chlorosis																												1								
56. Alcoholism (acute or chronic)													1												1											
59. Other chronic poisonings									1												1											2				

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 35 to 40 years.												From 40 to 45 years.												From 45 to 50 years.											
	Americans.		Filipinos		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Othe Europeans.		Chinese.		All others	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
V. Diseases of the digestive system—Continued.																																				
114. Biliary calculi			1																							1					1					
115. Other diseases of the liver	2		2								1				2											1										
117. Simple peritonitis (non puerperal)				2											2	2										2										
VI. Nonvenereal diseases of the genito-urinary system and adnexa.																																				
119. Acute nephritis			3	1												1										1	1									
120. Bright's disease	2		6	1											3	3										3	4									
122. Other diseases of the kidneys and annexa			1												2	1										1										
123. Calculi of the urinary passages															1																					
124. Diseases of the bladder			1													1																				
131. Cysts and other tumors of the ovary																											1									
VII. The puerperal state.																																				
135. Puerperal hemorrhage				3												1											1									
136. Other accidents of labor																1																				
137. Puerperal septicemia				4												2											1									
140. Following childbirth (not otherwise defined)				1																																
VIII. Diseases of the skin and of the cellular tissue.																																				
142. Gangrene																										1										
144. Acute abscess																											1									
XIII. Affections caused by external causes.																																				
155. Suicide by poison			1															1																		
165b. Other acute poisoning																																				

| | | |

***Number of deaths by nationality, sex, and age*—Continued.**

Causes of death.	From 50 years upward.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.																																					
1. Typhoid fever				4																					2		26	25					1		1	1	56
4. Malaria			6	6																							54	34					7		7		102
4a. Malarial cachexia				1																							2	3					1				6
6. Measles																											13	10									23
8. Whooping cough																										1	6	2									9
9. Diphtheria and croup																											7	10									17
10. Influenza			4	2																							13	10									23
12. Asiatic cholera				1																								1									1
14. Dysentery	1		10	11		1																			3	2	163	138	2	3	2	1	1		3	2	320
15. Plague																											1	1									2
17. Leprosy			2	3																					1		9	5									15
18. Erysipelas			1																								10	1									11
20. Purulent infection and septichæmia			1																						1		14	8		1			2		1		27
22. Anthrax			1																								1	1									2
24. Tetanus			3	2																					2		77	42					5		1		127
27. Beriberi			11	14					7																		665	539					39				1,243
28. Tuberculosis of the lungs			168	134	1		2		17																4	2	684	574	4	2	4		79	2	3	1	1,359
29. Acute miliary tuberculosis																											2										2
30. Tuberculous meningitis				2																					1		29	27							1		58
31. Abdominal tuberculosis			2	3																							20	20								1	41
32. Pott's disease																											2	3									5
33. White swellings																												1									1
34. Tuberculosis of other organs																											8	4									12
35. Disseminated tuberculosis			2	2																						1	11	7									19
36. Rickets																											4	7					1				12
37. Syphilis									2																	1	3					2					6
39. Cancer and other malignant tumors of the buccal cavity			7	1	1		1																				8	2		1		1	1				13
40. Cancer and other malignant tumors of the stomach, liver	1		3	2																					1		8	4		1			1				15
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum			1	1																							3	1									4

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 years upward.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system—Continued.																																					
82. Embolism and thrombosis				3	1																				1		5	1									7
83. Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)			1																						1		1										3
84. Diseases of the lymphatic system (lymphangitis, etc.)																											2		2								4
85. Hemorrhage; other diseases of the circulatory system																										1	2		3								6
IV. Diseases of the respiratory system.																																					
87. Diseases of the larynx			1																								1						1				1
88. Diseases of the thyroid body																																	1				1
89. Acute bronchitis			1								1																438	415					3	1		1	858
90. Chronic bronchitis			19	25	1	1			17																1		180	173	1	1			21	1			378
91. Broncho-pneumonia			9	4					1																2	1	133	102					3				241
92. Pneumonia			24	7																					2		87	42					5				136
93. Pleurisy																											8	6									14
94. Pulmonary congestion, pulmonary apoplexy			1		1																						6	2	1				1				10
95. Gangrene of the lungs																											4										4
96. Asthma			10	5	1																						12	15	1								28
97. Pulmonary emphysema			2	2																							2	2									4
98. Other diseases of the respiratory system (tuberculosis excepted)																											4										4
V. Diseases of the digestive system.																																					
99. Other diseases of the mouth and annexa					1																						2	1	1								4
100. Diseases of the pharynx																											1										1
101. Diseases of the esophagus				1					1																			1					4				5
102. Ulcer of the stomach			2	1	1																				1		4	4	1								10
103. Other diseases of the stomach (cancer excepted)				4																							10	11					1				22

| | | |

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 years upward.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
IX. Diseases of the bones and of the organs of locomotion.																																					
146. Diseases of the bones (tuberculosis excepted)																											3	2					2				7
X. Malformations.																																					
150. Congenital malformations (stillbirths not included)																											2	10									12
XI. Disease of early infancy.																																					
151. Congenital debility, icterus and sclerema																									3	2	454	344			2	1	1	1			808
152. Other diseases peculiar to early infancy																											12	6									18
153. Lack of care																										1	12	12									25
XII. Old age.																																					
154. Senility			128	224	1	1			1						1												129	224	1	1			1				356
XIII. Affections caused by external causes.																																					
155. Suicide by poison							1																		1		2				1						4
157. Suicide by hanging or strangulation																																	1				1
159. Suicide by firearms																									1												1
160. Suicide by cutting or piercing instruments																											2										2
161. Suicide by jumping from a high place							1																								1						1
165b. Other acute poisonings			1																							1	5	1	1								8
166. Conflagration				1																							1	1									2

167. Burns (conflagration excepted)				1																					11		9					1	1			22
168. Absorption of deleterious gases (conflagration excepted)																											1									1
169. Accidental drowning													1						1		1		1		9		2				7		1			20
170. Traumatism by firearms																							2		1											3
171. Traumatism by cutting or piercing instruments			2																						9		2		1		3					15
172. Traumatism by fall			1																						1											1
174. Traumatism by machines																									1											1
175. Traumatism by other crushing (vehicles, railroad landslides, etc.)				1																			1		9		4				1					15
181. Electricity (lightning excepted)																									2											2
188. Homicide by cutting or piercing instruments				1									1												1		5				1					7
185. Fractures (cause not specified)			1	1																			2		10		4				2		1			19
186. Other external violence				1																					13		2									15
XIV. Ill-defined diseases.																																				
188. Sudden death																									1											1
189. Cause of death not specified or ill-defined				1									1										1	1	30		21				5					58
Total	8	1	600	649	17	5	11	1	64			1	15	6					1		1		70	20	4,721		4,067		31	13	20	8	289	12	26	8	9,285
Grand total	9		1,249		22		12		64		1		21				1		1		90		8,788			44		28		301		34		9,285

DEATHS, BY OCCUPATIONS.

Occupation.	Number.	
	Males.	Females.
Professional:		
Architects, artists, teachers of art, etc	6	
Clergymen, priests, nuns, etc	6	4
Engineers and surveyors	8	
Journalists	2	
Lawyers	2	
Musicians and teachers of music	11	
Nurses and midwives		3
Physicians and surgeons	2	
Teachers (schools)	5	2
Others of this class	3	
Clerical and official:		
Bookkeepers, clerks, and copyists	98	1
Bankers, brokers, and officials of companies	4	
Collectors, auctioneers, and agents	6	1
Stenographers and typewriters	2	
Telegraph and telephone operators	3	
Others of this class	4	
Mercantile and trading:		
Apothecaries, pharmacists, etc	9	
Commercial travelers		
Merchants and dealers	81	1
Hucksters and peddlers	3	1
Shopkeepers	17	73
Others of this class	3	1
Public entertainment:		
Hotel and boarding-house keepers		
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	4	
Personal service, police and military:		
Barbers and hairdressers	19	
Janitors and sextons	22	1
Policemen, watchmen, and detectives	11	
Soldiers, sailors, and marines	6	
Others of this class	6	
Laboring and servant:		
Laborers (not agricultural)	643	8
Launderers	19	164
Servants	78	33
Manufacturing and mechanical industry:		
Artificial flower and paper-box makers		
Bakers and confectioners	7	1
Blacksmiths	12	
Boot, shoe, and slipper makers	3	
Manufacturing and mechanical industry—Continued.		
Brewers, distillers, and rectifiers		
Butchers	8	2
Cabinetmakers and upholsterers		
Carpenters and joiners	91	
Cigar makers and tobacco workers	31	97
Clock and watch repairers, jewelers etc	14	
Compositors, printers, etc	18	2
Coopers		
Embroiderers (gold, silk, etc.)		17
Engineers and firemen (not locomotive)	19	
Glass blowers and glass workers		
Hat and cap makers	3	1
Iron and steel workers		
Leather makers		
Leather workers	9	
Machinists	11	
Marble and stone cutters	5	
Masons (brick and stone)	18	
Mill and factory operatives (textiles)		2
Millers (flour and grist)		
Milliners		
Painters, glaziers, and varnishers	22	
Plumbers, gas and steam fitters	2	
Tailors, dressmakers, and seamsters	38	215
Tinners and tinware makers	3	
Others of this class	40	8
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	16	
Draymen, drivers, and teamsters	57	
Farmers, planters, and farm laborers	67	1
Gardeners, florists, nurserymen, etc	5	1
Livery-stable keepers and hostlers	2	
Lumbermen and raftsmen		
Miners and quarrymen	1	
Sailors, pilots, fishermen, and oystermen	63	1
Steam railroad employees	2	
Stock raisers, herders, and drovers	1	
Others of this class	6	
All other occupations	106	36
Total	1,765	677
Grand total	2,442	

INFANT MORTALITY.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.			Not stated.		
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	Total.
Atresia of rectum and anus, edema of brain												1		1
Atrepsia		3			3	21				1		1	4	33
Acute intestinal intoxication													1	1
Acute general miliary tuberculosis													1	1
Acute gastric dilation; hour glass stomach												1		1
Acute yellow atrophy of the liver		1												1
Acute entero-colitis following measles													1	1
Acute colitis													1	1
Acute ulcerative colitis													1	1
Acute hemorrhagic pachymeningitis													1	1
Asphyxia by suffocation, accidental		1												1
Asphyxia due to labor											1			1
Asphyxia (placenta previa, partial)											1			1
Abscess, multiple		1												1
Angiocholitis		1				1							1	3
Atelectasis of lungs												1		1
Accidental burns		1												1
Beriberi	33	826		2	4	67			1	14		11	82	1,040
Bronchitis, acute	22	354			4	120				6		5	85	596
Bronchitis, acute, following measles													2	2
Bronchitis and chronic enteritis						1								1
Bronchitis, capillary	2	13				3				1		1	8	28
Bronchitis and diarrhea						1								1
Broncho-pneumonia and maramus													1	1
Bronchitis, chronic		71				50				3			16	140
Broncho-pneumonia	1	44				15				1		3	19	83
Bright's disease						2								2
Broncho-pneumonia; infantile beriberi													1	1
Broncho-pneumonia; acute edema of lungs													1	1
Broncho-pneumonia; from gripp						1								1
Congestion of brain-meninges; acute ulcerative colitis													1	1
Cerebral hemorrhage													1	1
Congenital atelectasis												3		3
Congenital syphilis													1	1
Congenital debility, due to prematurity											4	3		7
Congenital heart diseased											1			1
Congenital debility	231	47	1		47	64	9		3	9	98	99	4	612
Congenital debility and lack of care		1												1
Congenital debility (measles)													1	1
Cellulitis, diffuse, thorax and abdomen													1	1
Chronic intestinal inflammation (chronic enteritis)													1	1
Convulsions of traumatic origin													1	1
Convulsions of infants	78	315			12	80	1			3	1	22	27	539
Dysentery:														
Acute		4		1		9				2			3	19
Bacillary		1		1										2
Probably bacillary						1								1
Chronic						1							1	2
Dyspepsia:														
Acute													1	1
Gastro-intestinal						4				1				5
Diphtheria and broncho-pneumonia													1	1
Diarrhea and enteritis	1	6				24				1				32
Diarrhea and enteritis, chronic						3								3
Lack of development												1		1
Erysipelas	2	3								1			1	7
Edema and congestion of lungs												1	1	2
Enteritis:														
Acute		16			1	20				2		1	10	50
Chronic		4				22				1			3	30
Entero-colitis, acute						2								2
Entero-colitis, chronic						4								4
Endocarditis rheumatic													1	1
Following operation for hare-lip													1	1

Infant mortality—Continued.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.			Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	
Furunculosis						1								1
Fracture of skull, intracranial hemorrhage		1				2								1
Grippe		5												7
Gastritis		2											3	5
Gastro-enteritis; acute asphyxia from inhalation of vomiting												1		1
Gangrene of left eye	1													1
Gastro-enterorrhagia							1							1
Gastro-enteritis:														
Acute	7	37			1	39				3		1	18	106
Acute, and pulmonary tuberculosis													1	1
Chronic		5				24				2			5	36
Chronic, and capillary bronchitis										1				1
Hypoplasia of right lung; patent foramen ovale and ductus arteriosus												1		1
Hemorrhagical dysentery		1												1
Hemorrhage from duodenal ulcer; meningeal edema													1	1
Hemophilia neonatorum		1												1
Hepatitis, acute													1	1
Hypostatic congestion and edema of lungs													1	1
Icterus	34	10				4	5					1	2	56
Intestinal parasites													1	1
Inanition, premature birth											1			1
Imperfect inflation of lungs; enlarge thymus												1		1
Influenza with meningitis							1							1
Inanition						1						1	1	3
Ileo-colitis and broncho-pneumonia													1	1
Ileo-colitis:														
Acute													1	1
Chronic		1												1
Jaundice						1								1
Lobar pneumonia; gastric ulcer												1		1
Malaria													1	1
Malnutrition		2			1	2						4	12	21
Measles; broncho-pneumonia						1								1
Marasmus	1	34			3	67				1		1	2	109
Marasmus; acute broncho-pneumonia; podencephalus													1	1
Meningitis:														
Due to otitis media										1				1
Acute		35				7							3	45
Chronic		1											1	2
Due to difficult dentition													1	1
Cerebral, simple	1	3										1		5
Simple		34		1		3				1			1	40
Simple, acute		2												2
Probably tubercular													1	1
Measles													1	1
Meningocele, occipital, congenital		1												1
Meningeal hemorrhage; pulmonary atelectasis; general jaundice												1		1
Multiple abscess of scalp													1	1
Nephritis, acute		3				2				1		1	3	10
Nephritis, chronic		1				1							1	3
Obstruction of intestines		3				1								4
Edema of brain													1	1
Patulous foramen ovale												1		1
Patent foramen ovale												1		1
Persistence of foramen ovale	1					1								2
Pyemia													1	1
Premature birth					1	2					5	15	1	24
Prematurity (miscarriage)											2	2		4
Prematurity (7 months)											1	1		2
Prematurity (congenital debility)					1						1			2
Pleurisy, purulent													1	1
Purulent infection		1				1							2	4
Pneumonia, lobular		1										1	1	3

Infant mortality—Continued.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.		Not stated.			Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days without alimentation.	Under 30 days.	From 30 days to 1 year.	
Pneumonia	1	10				6							5	22
Purpura hemorrhagica		1										2		3
Purpura hemorrhagica following measles													1	1
Pulmonary edema												1	1	2
Pulmonary congestion and apoplexy	1										1			2
Pleurisy, acute, left, and abscess, with dislocation of right cubito-humeral articulation													1	1
Rickets		2				3				1			1	7
Scrofula and eczema		1												1
Syphilis, congenita		1												1
Septicemia		1				1				1				3
Septicemia (generalized impetigo)		1												1
Status lymphaticus													2	2
Suppurative cellulitis of left thigh													1	1
Tetanus, infantile	79				3							11		93
Tubercular meningitis and enteritis													1	1
Tuberculosis of the lungs		2				1								3
Tuberculosis of the meningis		6				4				1				11
Tuberculosis of intestines						1								1
Typhoid fever													1	1
Tumor of mediastinum													1	1
Tricuspid insufficiency (congenital); acute dilatation and hypertrophy right ventricle													1	1
Umbilical hemorrhage	12	1										3		16
Undetermined, post mortem decomposition													1	1
Whooping cough		1				2							1	4
Wound of operation on peritoneum; hemorrhage into rectum; hypospadias													1	1
Total	509	1,923	1	5	85	696	11	----	4	59	117	207	378	3,995

PHILIPPINE GENERAL HOSPITAL.

	Total admissions.	Total discharged and transferred.	Total General Hospital, pay.	Total Government.		Total charity.	Total refused admission (no accommodations).	Total prescriptions filled (hospital, dispensary and outpatient department).	Total ambulance calls.		Total hospital days.
				Pay.	Free.				Routine.	Emergency.	
1911.											
July	627	618	------	104	55	401	------	4,480	------	------	8,840¼
August	650	609	------	84	54	433	------	6,300	------	------	9,278
September	574	608	------	97	41	370	------	6,634	------	------	11,006
October	648	626	------	113	73	372	------	6,141	------	------	9,265½
November	619	643	15	110	66	376	54	6,337	215	37	10,597½
December	641	667	29	109	58	413	17	6,620	236	12	9,441¼
1912.											
January	611	605	22	95	56	396	69	6,866	252	24	9,190
February	562	550	13	85	61	357	99	7,144	253	24	8,377¾
March	565	613	20	86	68	346	115	7,449	228	17	9,790
April	549	545	7	91	63	330	80	9,094	259	18	8,593½
May	624	616	5	108	104	365	40	8,963	226	18	8,521½
June	582	600	28	135	73	313	69	8,995	223	57	7,532½
Total	------	------	------	------	------	------	------	------	------	------	110,632¾
Average hospital days	------	------	------	------	------	------	------	------	------	------	15½

Philippine General Hospital—Continued.

GENERAL STATISTICS.

Total number of completed cases	7,252
Total number of births	382
Total number of deaths	437
Total hospital days	110,6328
Average hospital days	15[illegible]

CLINICAL RECORD DIVISION.

Report of completed cases for the fiscal year 1912.

Classes of patients.	Medical.	Surgical.	Obstetrical.	Eye, ear, etc.	Total.
Charity adult	1,462	1,622	421	464	3,969
Charity children	475	34	0	10	519
Government free	415	281	28	48	772
Government pay	724	271	80	142	1,217
General Hospital pay	67	44	7	10	128
Private pay	326	186	30	105	647
Total	3,469	2,438	566	779	7,252
Grand total					7,252

FREE DISPENSARY DIVISION.

Total number of patients	25,171
Total number of visits	64,673
Surgical clinic:	
Minor operations	779
Dressings	16,612
Eye, ear, nose, and throat clinic:	
Minor operations	15
Dressings	24

	Medical clinic.	Surgical clinic.	Skin clinic.	Tuberculosis clinic.	Obstetrical clinic.	Eye, ear, nose, throat clinic.	Neurology clinic.	Genito-urinary clinic.	Children clinic.	Dental clinic.	Total.
Number of first visits	10,087	5,370	1,142	1,616	232	3,788	211	292	2,251	182	25,171
Number more than one visit	8,927	16,306	778	1,879	114	9,416	252	418	1,390	22	39,502
Males	2,751	3,341	220	0	0	1,920	78	162	0	128	34,874
Females	1,966	1,620	84	0	65	1,743	42	0	0	56	22,242
Children	0	718	67	0	0	490	0	0	907	20	7,557
Total number of patients	19,014	21,676	1,920	3,495	346	13,204	463	710	3,641	204	64,673
Number of Government employees											1,418
Grand total											64,673
Number of prescriptions filled											83,517

INFORMATION DIVISION.

(Including only information of interest to the professional side of the hospital from November, 1911, to June, 1912, inclusive.)

Ambulance calls:	
Routine	1,892
Emergency	207
Total	2,099
Refused admission:	
No beds	543
Undesirable cases, contagious diseases, etc.	312
Other reasons	351
Total	1,206

Philippine General Hospital—Continued.

DEPARTMENT OF EYE, EAR, NOSE AND THROAT.

Number of major operations	925
Number of minor operations (estimated)	1,440
Number of major dressings	1,909
Number of minor dressings	9,614
Number of refractions of eyes (estimated)	1,123
Number of Government patients treated	2,211
Number of charity patients, Caucasians	8,230
Total number of dressings	11,543
Total number of patients admitted to hospital	778
Total number of operations of all classes	2,365
Number of beds occupied during fiscal year	10,220

DEPARTMENT OF OBSTETRICS.

Special annual report of completed cases for the fiscal year 1912.

	Official.	Charity.	Private pay.	Hospital pay.	Total.	Nationality.		
						Americans.	Filipinos.	Others.
Abortions and miscarriages	10	40	1	2	53	4	47	2
Pregnancy	16	69	4	1	90	6	80	4
Parturient women	76	222	21	3	322	63	243	16
Post-partum women	8	83	0	0	91	3	88	0
Births	76	222	21	3	322	63	243	16
Living children	75	195	21	3	294	63	215	16
Stillborn	1	27	0	0	28	0	28	0
Deaths	6	29	0	0	35	2	33	0
Mothers	2	22	0	0	24	0	24	0
Infants	4	7	0	0	11	2	9	0

DEPARTMENT OF SURGERY.

Special annual report for the fiscal year 1912.

Months.	Operations.					Dressings.				
			Emergency.		Total.	Fl. 16.		Fl. 15.		Total.
	Major.	Minor.	Major.	Minor.		Major.	Minor.	Major.	Minor.	
1911.										
July	41	73	no record		114					
August	41	119	no record		160	1,890	788	477	323	3,478
September	60	141	no record		201		not classified			4,135
October	42	119	no record		161	1,261	798	60	348	2,467
November	44	96	no record		140	1,075	642	191	323	2,231
December	28	189	6	25	148	1,088	807	158	521	2,569
1912.										
January	26	87	3	26	162	1,073	719	397	588	2,777
February	43	67	0	17	127	691	481	388	392	1,952
March	85	45	0	45	175	715	789	307	223	2,134
April	48	139	9	78	269	742	1,196	121	163	2,222
May	48	57	12	62	179	645	925	60	252	1,822
June	52	50	6	41	149	653	1,218	0	72	1,943

Months.	Local anesthesia.		General anesthesia.	
	1911	1912	1911	1912
July	19	8	89	107
August	37	3	111	97
September	15	5	143	85
October	14	5	135	98
November	10	16	102	108
December	8	5	104	100
Total	139		1,270	

NOTE.—There were also 148 emergency dressings during March and 35 during May.

Philippine General Hospital—Continued.

ELECTRO-MEDICAL DEPARTMENT.

	Official.	Private.	Charity.	Total.	Amount.
Skiagrams:					
Extremities	98	44	136	278	₱440.00
Head	14	19	61	94	290.00
Chest	29	14	34	77	280.00
Abdomen or pelvis	64	22	53	139	760.00
Total	200	99	284	583	1,870.00
Fluoroscopic examinations of:					
Extremities and chest	9	6	14	29	30.00
Abdomen			2	2	
Total	9	6	16	31	30.00
X-irradiation treatments:					
Acne	96	17		113	83.00
Carcinoma—					
Breast			28	28	
Maxilla	5	6	10	21	30.00
Tongue			9	9	
Uterus		9		9	45.00
Dhobie itch	7		2	9	
Ecthyma			6	6	
Eczema vesicular	12			12	
Endometritis, tuberculous	15	1	0	16	3.00
Graves disease	50	5		55	25.00
Lupus—					
Erythematous	4	1		5	5.00
Vulgaris			10	10	
Mycosis, fungoides	30		4	34	
Psoriasis			12	12	
Pyorrhea, alveolaris	24			24	
Tic convulsive			4	4	
Trigeminal neuritis	8	2		10	10.00
Ulcus rodens	9			9	
Total	260	41	85	386	203.00
Dermo-arc light (ultra-violet rays):					
Skin lesion tubercular	0		4	4	
Climatic bubo, post operative			39	39	
Lupus, vulgaris			22	22	
Ulcus rodens	2			2	
Total	2		65	67	
High frequency treatments	509	225	346	1,080	1,125.00
Galvano-faradic treatments	61	108	144	313	267.50

NOTE.—Under skiagram of chest, there were 3 research cases included.

CASES TREATED.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.	Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Abortion:						Adenocarcinoma	1	1			
Accidental	2	2				Adenoids	25	25			
Acute	1	1				Adhesions	3	3			
Incomplete	4	4				Unclassified	8	7	1		
Threatened	14	14				Albuminuria	26	25	1		
Unclassified	6	5	1			Alcoholism:					
Complete	1	1				Acute	2	2			
Acne, Pustulosa, back	1	1				Chronic	3	2	1		
Acromegaly	1	1				Amebiasis:					
Addison's disease	1	1				Intestines	182	176	2	4	
Adenitis:						Liver	4	3	1		
Inguinal	2	2				Amputation:					
Lymphatic	1	1				Traumatic—					
Suppurative, neck	1	1				Arm	1	1			
Tuberculosis, cervix	1	1				Hand	1	1			

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Anemia:					
Acute	1		1		
Brain, acute	2	2			
Chronic	1		1		
Secondary	26	19	7		
Splenic, infantile	2	2			
Intestinal	1	1			
Unclassified	1	1			
Primary	1	1			
Aneurysm:					
Aorta, abdominal	1	1			
Syphilitic	1	1			
Ankylostomiasis	209	200	6	3	
Anteversion, uterus	1	1			
Anus, atresia	1		1		
Appendicitis:					
Acute	14	12	1		1
Suppurative	3	3			
Chronic	37	37			
Obliterative	1		1		
Suppurative	3	2	1		
Arterio-sclerosis	14	11	3		
Arthritis:					
Acute, traumatic	1	1			
Chronic	1	1			
Gonorrheal	1	1			
Unclassified	1	1			
Ascariasis	448	436	6	5	1
Ascites	2	2			
Asthma, bronchial	5	4	1		
Atrophy:					
Corti's membrane	1	1			
Liver	1	1			
Optic nerve	2	2			
Muscles, hand	1	1			
Auto-intoxication, gastro-intestinal	1	1			
Bacteremia	1	1			
Balanitis, acute, infantile	8	8			
Balantidiasis	2	1	1		
Banti's disease	1		1		
Beriberi, acute	9	8	1		
Blepharitis	1	1			
Blindness:					
Unclassified	1	1			
Bronchitis:					
Acute	56	51	2	2	1
Chronic	6	6			
Subacute	1	1			
Buphthalmos	1	1			
Burns	13	13			
Calculus:					
Vesical	5	4	1		
Urethra	1	1			
Carbuncle:					
Neck	3	2	1		
Simple	1	1			
Back	1	1			
Caries tooth	2	2			
Septicemia	1		1		
Capsule, humeral, loose	1	1			
Cataract	28	28			
Cervicitis, chronic	1	1			
Cellulitis, abdomen	1	1			
Acute—					
Scrotum	1	1			
Submaxilla, neck and chest	1		1		
Diffuse	1		1		
Left hand and forearm	2	1	1		
Neck	1	1			
Acute	1	1			

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Chancroids	1	1			
Multiple	6	6			
Penis	2	2			
Cholangitis:					
Acute	5	3	2		
Catarrhal	1	1			
Cholecystitis	6	6			
Acute	1	1			
Chronic	4	3	1		
Cholelithiasis	2	2			
Cholera infantum	1	1			
Circomoniasis	1	1			
Cirrhosis, liver	2	1	1		
Biliary	1		1		
Portal	1		1		
Colic, kidney	1		1		
Colitis:					
Acute	10	8	2		
Bacillary	21	17	4		
Unclassified	6	6			
Chronic	6	6			
Amebic	2	1	1		
Undetermined	3	3			
Unclassified	2	2			
Concussion:					
Brain	2	1			1
Cornea	1	1			
Congestion:					
Lungs	15	3	12		
Passive, liver	1	1			
Liver	2	1	1		
Conjunctivitis, phlyctenular	1	1			
Acute	5	5			
Chronic	2	2			
Follicular	2	2			
Unclassified	1	1			
Constipation:					
Chronic	10	10			
Unclassified	4	4			
Contusions	6	5	1		
Coryza	2	2			
Cyst-adenoma, ovarian	1	1			
Cyst:					
Intraligamentous	1	1			
Ovarian	16	15	1		
Dermoid	1	1			
Pancreas	1	1			
Superior maxilla	1	1			
Spermatic cord	2	2			
Cryptorchidism	1	1			
Cystitis:					
Acute	8	7	1		
Unclassified	1	1			
Chronic	11	9	2		
Cystocele	1	1			
Cystoma, breast	1	1			
Dacryocystitis	1	1			
Acute	2	2			
Chronic	1	1			
Deafness	1	1			
Debility, senile	1	1			
Deformity:					
Acquired	1	1			
Ankylosis	3	3			
Dementia, paralytica	1	1			
Dermatitis	4	4			
Diabetes	2	2			
Diarrhea, acute, unclassified	4	4			
Dilatation:					
Gastric, acute	11	2	9		
Heart, acute	6	3	3		

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Dislocation	2	2			
Radius	1	1			
Rib	1	1			
Distention, bladder	1	1			
Dystrophy, muscular	1	1			
Ecchymosis	2	2			
Eczema:					
Chronic	2	2			
Rubrum	1	1			
Seborreicum	1	1			
Unclassified	1	1			
Pustular, head	1	1			
Edema:					
Arm	1	1			
Epiglottis	1		1		
Prepuce	1	1			
Lungs	16	1	15		
Acute	2	2			
Scrotum	1	1			
Spermatic cord	1	1			
Embolism	1		1		
Empyema:					
Ethmoid cells	2	2			
Lung	2	1	1		
Pleural cavity	2		2		
Sphenoid cavity	3	3			
Sinus	1	1			
Emphysema, lungs	2	1	1		
Endocarditis, puerperal	1	1			
Acute	7	6	1		
Chronic	11	11			
Streptococcic	1	1			
Endocervicitis, chronic	2	2			
Endometritis:					
Acute	1	1			
Chronic	13	13			
Endothelioma:					
Foot	1	1			
Neck	1	1			
Enteritis, acute	3	3			
Entero-colitis, acute	1		1		
Epithelioma:					
Ear	1	1			
Penis	1	1			
Enteritis, acute	1	1			
Epididymitis:					
Acute	3	3			
Chronic, unclassified	1	1			
Gonorrheal	1	1			
Subacute	1	1			
Unclassified	2	2			
Chronic	5	5			
Epilepsy:					
"Grand mal"	2	2			
Hysteric	3	3			
Epistaxis	1	1			
Erysipelas					
Suspected	1			1	
Erythema, multiform	1	1			
Fever:					
Paratyphoid	4	4			
Constipation	1	1			
Dengue	55	55			
Glandular	1			1	
Puerperal	1	1			
Rheumatic	11	11			
Acute	6	6			
Typhoid	19	16	3		
Unclassified	16	16			
Undetermined	3	3			
Fibro-adenoma	1	1			
Fibroneuroma	1	1			
Fibroid uterus	1	1			
Fibroma, multiple	1			1	
Fissure, ano	2	2			

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Fistula:					
Anus	8	8			
Complete	2	2			
Intestine	1	1			
Recto-vaginal	1	1			
Vesico-vaginal	1	1			
Foreign bodies	2	2			
Especial sense organ	1	1			
Fracture, clavicle	1	1			
Coccyx	1	1			
Fingers and hands	1	1			
Colle's	1	1			
Comminuted	2	2			
Clavicle, hand	2	2			
Compound	15	15			
Multiple	1		1		
Compound, skull	1	1			
Neck	2	1	1		
Ribs	3	2	1		
Semilunar cartilage	1	1			
Simple	2	2			
Ulna, radius	2	2			
Tibia	1	1			
Skull	3	2	1		
Ulna	4	4			
Unclassified	8	8			
Furunculosis	1	1			
Gangrene:					
Foot	1			1	
Hand	1	1			
Leg	1	1			
Gastritis:					
Acute	28	27			1
Chronic	12	12			
Gastro-enteritis, acute	18	16	2		
Cholemia	1	1			
Chronic	2	1	1		
Mild	1	1			
Unclassified	1		1		
Chronic, tuberculous	1	1			
Gingivitis, chronic	1	1			
Glaucoma	1	1			
Glossitis, chronic	1	1			
Goitre:					
Cyst	1	1			
Exopthalmic	2	1	1		
Simple	7	7			
Unclassified	1	1			
Gonorrhea:					
Chronic	1	1			
Epididymis	1	1			
Testis	1	1			
Unclassified	3	3			
Granuloma, chronic, foot	1	1			
Haemangioma	1	1			
Hare-lip	2	2			
Hematocele, tunica vaginalis	1	1			
Hematoma	1	1			
Chest	1	1			
Scrotum, peritoneum	1	1			
Hemiplegia	3	1	1	1	
Hemorrhage:					
Traumatic	1		1		
Brain	1	1			
Cerebral	5	3	2		
Toxic	1		1		
Internal	2		2		
Lungs	4	3	1		
Post-partum	5	4	1		
Rupture, extopic pregnancy	1	1			
Traumatic, vesical	1	1			
Urethra	1	1			

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Hemorrhoids:					
Chronic	1	1			
External	4	4			
Internal	2	2			
Unclassified	5	5			
Hernia:					
Congenital	15	14	1		
Incarcerated	2	2			
Inguinal	21	20	1		
Post-operative	1	1			
Strangulated	4	2	2		
Direct	1	1			
Herpes labialis	1	1			
Hydrocele	9	9			
Chronic	1			1	
Hydroperitoneum	3	2	1		
Hydrosalpinx	1	1			
Hydrothorax:					
Dextra	1	1			
Double	3	3			
Unclassified	1		1		
Hyperchlorydia	3	3			
Hyperemia, passive, liver	1		1		
Hyperthyroidism	4	4			
Hypertrophy:					
Cervix	2	2			
Heart	1	1			
Inferior turbinate	1	1			
Tonsils	35	35			
Icterus neonatorum	1		1		
Ileus, paralytic	1		1		
Ileo-colitis	1		1		
Chronic	1	1			
Inertia, uterus	1	1			
Indigestion:					
Acute	3	3			
Unclassified	2	2			
Infection:					
General—					
Endogenous—					
Gonococcus	24	23			1
Monad	4	4			
Septicemia	10	9	1		
Streptococcus	1	1			
Sinus	1	1			
Umbilical cord	2	2			
Exogenous, puerperal	5	5			
Local:					
Abscess	82	74	7	1	
Cellulitis	1	1			
Ears	1	1			
Eyelid	1	1			
Finger	1	1			
Furunculosis	1	1			
Prepatellar	1	1			
Umbilicus	1		1		
Iridocyclitis:					
Chronic	3	3			
Inflammation					
Pelvic	5	5			
Spermatic cord and epididymis	1	1			
Insanity	1			1	
Iritis, chronic	1	1			
Keratitis:					
Interstitial	3	3			
Parenchymatosa, luetica	1	1			
Phlyctenular	1	1			
Laryngitis:					
Acute	2	2			
Unclassified	2	1	1		
Leukoma	2	2			
Leprosy	1			1	

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Lumbago	1	1			
Little's disease	1	1			
Lymph nodes, inguinal	1	1			
Lymphangitis	1	1			
Lymphadenitis:					
Acute—chancroidal	1	1			
Inguinal	2	2			
Auxillary, purulent	1	1			
Inguinal	2	2			
Malaria:					
Acute	1	1			
Chronic	1	1			
Unclassified	1	1			
Estivo-autumnal	29	26	2		1
Pernicious	1		1		
Quartan	1	1			
Rheumatic, acute	1		1		
Tertian	38	34	1	3	
Unclassified	20	19	1		
Undetermined	3	3			
Malingerers	1	1			
Malnutrition	4	3	1		
Mania, acute	2	1			1
Marasmus	8	3	4		1
Mastitis:					
Acute	1	1			
Double	1		1		
Suppurative	1	1			
Mastoiditis:					
Acute	3	2	1		
Chronic	2	2			
Measles	8	3		5	
Meningitis; acute	8		8		
Meningocele	1	1			
Menorrhagia	1	1			
Metastasis	1	1			
Metrorrhagia	1		1		
Mitoma	1	1			
Monadiasis	89	83	4	2	
Myelitis—					
Acute	2	1	1		
Myocarditis:					
Acute	8	5	3		
Chronic	3	3			
Necrosis:					
Maxillary	3	1	2		
Suppurative	1	1			
Nephritis:					
Acute	48	33	14	1	
Chronic	48	40	8		
Unclassified	10	6	4		
Nephrolithiasis	4	4			
Nephroptosis	2	2			
Neuralgia, facial	2	2			
Cranial nerve	1	1			
Lumbar	1	1			
Trifacial	1	1			
Stomach	1	1			
Neurasthenia	3	3			
Cerebral	1	1			
Unclassified	3	3			
Neuritis:					
Acute	11	11			
Bronchial, acute	1	1			
Multiple, acute	1	1			
Multiple, chronic	1	1			
Peripheral	6	6			
Peripheral—					
Acute	4	4			
Post-partum	4	3		1	
Sciatica, chronic	3	3			
Unclassified	2	2			
No diagnosis	4	3			1
Normal, no disease	2	2			
Normal baby	6	6			

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Obstruction:					
Intestinal	4	3	1		
Mechanical	5	5			
Ophthalmia neonatorum	1	1			
Oöphoritis	1	1			
Acute	2	2			
Suppurative	2	2			
Unclassified	1	1			
Orchitis	0	0			
Acute	7	7			
Chronic	2	1		1	
Gonorrheal	1	1			
Subacute	1	1			
Suppurative	1	1			
Unclassified	1	1			
Osteomyelitis	1	1			
Chronic	3	3			
Unclassified	2		2		
Otitis externa	2	2			
Osteosarcoma	1	1			
Otitis media:					
Acute	8	7			1
Chronic	3	3			
Suppurative	1	1			
Acute	2	1	1		
Chronic	4	3	1		
Unclassified	1	1			
Unclassified	2	2			
Otosclerosis	1	1			
Oxyuriasis	4	4			
Panophthalmitis	3	3			
Paralysis	1	1			
Trifacial nerve	1	1			
Paramyoclonus	1	1			
Paraphimosis	1	1			
Paresis, general	1			1	
Parotitis:					
Acute	1	1			
Chronic	1	1			
Parturition:					
Abnormal	15	14	1		
Normal	73	73			
Peliosis, rheumatic	1		1		
Pemphigus	2	1	1		
Perforation:					
Intestine	1		1		
Septum	1	1			
Pericarditis:					
Sero-fibrinous	4	1	2	1	
Serous	1	1			
Unclassified	1		1		
Peripheral					
Chronic	1	1			
Peritonitis:					
Acute	11	4	7		
General	1	1			
Pelvic	5	5			
Chronic	1	1			
Pelvic	1	1			
General	2	0	2		
Local, subacute	1	1			
Pelvic, local	1	1			
Unclassified	2		2		
Pelvic	1	1			
Periostitis	1	1			
Pharyngitis:					
Acute	4	4			
Subacute	1	1			
Phymosis	8	8			
Congenital	1	1			
Unclassified	8	8			
Incomplete	2	2			
Pityriasis, rubrapilaris	1	1			

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Pleuritis:					
Acute	6	4	1	1	
Sero-fibrinous	3	2	1		
Chronic	14	13	1		
Dextra	1	1			
Obliterative	2	2			
Sero-fibrinous	8	8			
Unclassified	4	4			
Fibrinous	1	1			
Pneumonia:					
Broncho	37	16	21		
Traumatic	1	1			
Lobar	44	32	10	2	
Terminal	1		1		
Unclassified	4	1	3		
Lobular	5	4	1		
Pneumothorax	1		1		
Poisoning	4	3	1		
Silver nitrate	1	1			
Polyhydramonios	1	1			
Polyneuritis, acute	1	1			
Polypus	0	0			
Nasal	7	7			
Posthitis, acute	1	1			
Pott's disease	1	1			
Pregnancy	45	43		1	1
Proctocele	1	1			
Prolapsus uteri	1	1			
Anus	2	2			
Ovary	1	1			
Prostatitis	4	4			
Psoriasis	1	1			
Psycosis, mania depressive	3	2		1	
Pterygium	4	4			
Puerperium	7	7			
Purpura, scorbutica	1	1			
Pyelitis:					
Acute	2	2			
Chronic	2	2			
Pyemis	1	1			
Pyonephritis	2	2			
Pyorrhea alveolar	2	1	1		
Rectocele	1	1			
Retention of urine	1	1			
Uterine	1	1			
Retinitis acute	1	1			
Retroflexion uterus	10	10			
Retrosinistroflexion, uterus	1	1			
Retroversion, uterus	28	28			
Recklinghausens disease	1		1		
Rhinitis:					
Acute	1	1			
Specific	1	1			
Rheumatism:					
Acute	1	1			
Chronic	2	2			
Salpingitis:					
Acute	2	2			
Chronic	1	1			
Suppurative	3	3			
Unclassified	1	1			
Salpingo-oöphoritis, chronic	2	2			
Salpingovaritis	1	1			
Sarcoma:					
Thigh	1	1			
Neck	1	1			
Scabies	7	6		1	
Chronic	1	1			
Unclassified	4	4			
Sciatica	1	1			

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Sclerosis:					
Unclassified	1	1			
Amyotrophic	3	3			
Multiple	1	1			
Septum, deviated	1	1			
Shock	2		2		
Splenitis:					
Acute	1		1		
Chronic	2		2		
Unclassified	2	1	1		
Splenomegaly, malarial	2	2			
Sprain	6	6			
Foot	1	1			
Knee	1	1			
Sprue	2	2			
Staphyloma, corneal	2	2			
Stenosis, cervix	4	4			
Stomach, malposition	1		1		
Stomatitis	2	1	1		
Acute	1	1			
Mercurialis	2	2			
Chronic	1	1			
Strabismus:					
Convergent	1	1			
Unclassified	1	1			
Streptococcemia	1	1			
Stricture	6	6			
Urethral	3	3			
Strongyloidiasis	12	12			
Subinvolution, uterus	6	6			
Sunburn	1	1			
Stye	1	1			
Syphilis:					
Acquired	1	1			
Congenital	1	1		1	
Nasal septum	1	1			
Nervous system	1	1			
Nose	1	1			
Optic nerve	1	1			
Primary	6	6			
Quaternary	3	2	1		
Secondary	8	8			
Tertiary	60	60			
Tuberculous	1	1			
Unclassified	9	9			
Tendo-myositis	1	1			
Tinea:					
Imbricata	2	2			
Versicolor	7	7			
Unclassified	1		1		
Teniasis	3	3			
Tetanus	2		1	1	
Tabes, dorsalis	2	2	0		
Tendo-synovitis	1	1			
Thrombo-phlebitis, arms	1	1			
Thyroglossal duct, obstruction	1	1			
Tonsillitis:					
Acute	4	3		1	
Chronic	38	38			
Unclassified	5	5			
Torticollis	1	1			
Toxemia, exogenous	30	27	2		1
Trycophytosis	2	2			
Trycocephaliasis	571	552	15	4	
Tricuriasis	1	1			
Trachoma	1	1			
Trichomoniasis	1	1			

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Tuberculosis:					
Abdomen	1	1			
Bladder	1	1			
Epididymis and testis	1	1			
Femur	1	1			
Foot	1	1			
Hip	1	1			
Intestines	4	3	1		
Neck	1	1			
Joints	10	10			
Lungs	117	98	9	9	1
Lymphatics	8	8			
Mesenteric glands	3	3			
Meninges	1		1		
Omentum	1	1			
Peritoneum	2	2			
Pleura, sinistra	1			1	
Shoulder	1	1			
Rib	1	1			
Spine	3	3			
Kidney	1		1		
Testicles	1	1			
Tibia	1	1			
Tumor:					
Benign—					
Alimentary system, female	1	1			
Carcinoma, cheek	1	1			
Glandular system, male	1	1			
Fibro-lipoma shoulder	1	1			
Orbit	1	1			
Reproductive system, female	12	11	1		
Unclassified	3	3			
Malignant—					
Carcinoma, cheek	1	1			
Digestive system—					
Female	2	1	1		
Male	3	3			
Glandular system, male	2	2			
Locomotory system, male	1	1			
Reproductive system, female	3	3			
Tunica vaginalis	6	5		1	
Ulcer:					
Chronic	3	3			
Leg	1	1			
Corneal	5	4		1	
Duodenal, chronic	2	2			
Gastric	1	1			
Septum	1	1			
Serpens	3	3			
Stomach, acute	1	1			
Thigh	1	1			
Tuberculosis, back	1	1			
Undetermined	13	7	6		
Uremia	4		4		
Urethra, absence, congenital	1	1			
Urethritis:					
Acute	2	2			
Chronic	1	1			
Gonorrheal	4	4			
Posterior	1	1			
Subacute, gonorrheal	1	1			
Gonococcus	1	1			

Philippine General Hospital—Continued.

CASES TREATED—Continued.

Diagnosis.	Number of cases.	Discharged.	Died.	Transferred.	Deserted.
Urticaria, chronic	1	1			
Uterine, inertia	1	1			
Uterus	28	26	2		
Vaccinia	1	1			
Vaginitis:					
Acute	2	2			
Chronic	1	1			
Gonorrheal	1	1			
Valvular disease	5	3	2		
Valvulitis, chronic	16	11	5		
Varicella	1				1
Varicocole	5	5			
Vitiligo	3	2	1		
Weil's disease	1	1			
Wart, submaxilla	1	1			
Wound:					
Contused	22	20	1	1	
Crushed	8	6	1	1	
Gunshot	2	2			
Incised	4	3		1	
Infected	11	9	1	1	
Lacerated	73	70	2	1	
Penetrating	1	1			
Stab	18	14	3	1	
Cut	1	1			
Punctured	2	1	1		
Perforated	3	3			
Yaws	6	6			
Total	4,419	3,986	349	73	12

This table covers only three months—April, May, and June 1912.

BILIBID PRISON REPORT OF SICK.

	Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
2	Beriberi:						
	Chronic	1	4	2		2	1
	Acute		5	1		3	1
6	Diphtheria		1		1		
7	Dysentery:						
	Amebic—						
	Acute	17	272			282	7
	Chronic		7	2		5	
	Catarrhal		4			4	
9	Fever, dengue		31			31	
16	Leprosy	1			1		
	Nodular		1		1		
	Tubercular		1		1		
17	Malaria:						
	Estivo-autumnal	1				1	
	Tertian		25			25	
	Undetermined		57			57	
18	Measles		28			25	3
21	Mumps	2	53			51	4
23	Smallpox						
	Varioloid		13		3	9	1
24	Typhoid fever (abdominal typhus)		1	1			
26	Varicella	1	7		1	7	
28	Other epidemic diseases: Paratyphoid		1			1	
30	Alcoholism:						
	Acute		1			1	
	Chronic		4			3	1
31	Anemia, pernicious, progressive		1			1	
36	Cancer and other malignant tumors of peritoneum, intestines and rectum: Sarcoma of intestines		1	1			
41	Chancroid and chancroidal bubo: Glans penis	1				1	
48	Drug habits, morphinism	15	312			322	5
49	Drug habits, opiumism	9	228			230	7
54	Gonorrhea and gonorrheal bubo		5			3	2
55	Other gonorrheic infections and results:						
	Fistula, perineal		3			3	
	Arthritis, acute, left knee		1				1
	Urethral stricture		2			2	
60	Myalgia	2	16			17	1
64	Pott's disease	1					1
65	Purulent septicemia and infection (nonpuerperal): Pyemia		1	1			

Bilibid Prison report of sick—Continued.

	Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
67	Rheumatism, articular:						
	Acute		10			10	
	Chronic	1	14			15	
69	Scurvy		1	1			
70	Syphilis, acquired, primary		2		1	1	
71	Syphilis, acquired, secondary and tertiary:						
	Secondary	2	21			21	2
	Tertiary		5			5	
	Necrosis of sternum	1				1	
	Necrosis of the palatine vault	1				1	
	Necrosis of the third right rib	1				1	
73	Tetanus		4	1	2	1	
75	Tuberculosis, disseminated		2	1		1	
76	Tuberculosis, miliary, acute		1	1			
78	Tuberculosis of the bones and joints: Tarsal and metatarsal bones, right foot	1				1	
80	Tuberculosis of the lungs	129	164	80	2	72	139
82	Tuberculosis of other organs:						
	Epididymitis		1			1	
	Spermatic cord, left		1			1	
	Testicle	2	1			3	
	Chest wall, left		1	1			
84	Tuberculous adenitis:						
	Axillary		3			3	
	Cervical	1	5			6	
	Retroperitoneal glands, with obstruction of common hepatic duct		1				1
85	Tuberculous enteritis	1	1			1	1
86	Tuberculous peritonitis		3	1			2
90	Other nonepidemic diseases: Anemia		1			1	
108	Meningitis, cerebral, suppurative		1	1			
107	Other diseases of the brain: Hemiplegia, right		1				1
109	Ataxia, locomotor	1	2			3	
117	Paralysis, bulbar		1				1
121	Spastic paraplegia	3	2			3	2
128a	Melancholia passiva		4		4		
129b	Maniacal frenzy		1		1		
143a	Idiocy		1		1		
155	Hysteria		1			1	
	Contraction of left knee		1				1
159	Neuralgia		1			1	
	Intercostal		1			1	
161	Neuritis:						
	Peripheric, chronic		1			1	
	Peripheral nerves		1			1	
162	Sciatica		3			3	
168	Amblyopia, acute, both eyes	1				1	
171	Blepharitis		3			3	
172	Cataract, left eye		1			1	
	Senile		1			1	
174	Conjunctivitis, acute	1	41			38	4
175	Conjunctivitis, follicular		3			3	
184	Injuries to eye: Contusions		1			1	
186	Keratitis	1	8			9	
195	Pterygium		1			1	
198	Staphyloma		1			1	
203	Other diseases of the eye and its adnexa: ulcer, right cornea		1				1
204	Abscess of the ear:						
	Auditory canal		1			1	
	Left		1			1	
207	Deafness		1			1	
214	Otorrhea	1	2			3	
217	Other tumors of the ear: Cyst, sebaceous		1			1	
218	Other diseases of the ear and its adnexa: Furuncle, external, auditory canal		1			1	
229	Mitral incompetency	1	1				2
238	Aneurism, arterio-venus: Lip	1				1	
239	Aneurism of aorta: Arch of aorta		2			2	
242	Arterio-sclerosis	3	5			7	1
251	Hemorrhoids, internal	1	49			45	5
257	Varicocele		4			4	
259	Varicose veins		7			7	
	Right leg		2				2
261	Adenitis, nonvenereal, inguinal		1			1	
270	Filariasis		1			1	
	Diurna		1			1	
	Nocturna		7			7	
276	Coryza, acute		1			1	

Bilibid Prison report of sick—Continued.

	Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
289	Other diseases of the nose and throat: Polypus		1			1	
291	Bronchitis:						
	Acute	1	36			37	
	Chronic		10			10	
292	Broncho-pneumonia		6			4	2
293	Hemoptysis		5			5	
294	Lung, congestion of	1	2			3	
298	Lung, gangrene of		3	2			1
300	Pneumonia, lobar	1	55	12		40	4
301	Pneumonia, lobular		1			1	
302	Other diseases of the lungs nontubercular:						
	Abscess		2	2			
303	Asthma	2	23			21	4
304	Empyema	1	2	2		1	
309	Pleurisy, fibrinous	1	2			3	
	Acute		3			3	
310	Pleurisy, sero-fibrinous:						
	Acute		8			4	4
	Chronic		4			3	1
314	Other diseases of the respiratory system:						
	Pleurisy, obliterative, chronic		1	1			
315	Abscess of fauces		2			2	
334	Pharyngitis, acute		2			2	
335	Stomatitis, acute		3			3	
336	Tonsillitis, chronic		3			2	1
339	Other diseases of the mouth pharynx and esophagus:						
	Sprue		14			14	
	Abscess, alveolar		1			1	
344	Gastritis:						
	Acute		11			11	
	Chronic	2	5			7	
	Alcoholic		1			1	
357	Stomach, ulcer of		1			1	
359	Anus, abscess of		4			4	
361	Anus, fistula of, chronic	1	11			11	1
364	Colitis, acute		1			1	
365	Constipation:						
	Acute		25			24	1
	Chronic	2	18			20	
368	Enteritis, acute		4			4	
369	Enterocolitis, acute		1			1	
371	Gastro-enteritis:						
	Acute		1			1	
	Chronic	1	2			3	
374	Hernia, inguinal	3	52			52	3
378	Hernia, ventral		13			10	3
	Epigastric, congenital		2				2
379	Intestines, abscess of, ischio-rectal		1			1	
380	Intestines, fistula of: Appendectomy, performed to relieve fistula from appendectomy	1				1	
387	Intestines, ulcer of:						
	Peritonitis, suppurative, due to perforative duodenal ulcer		1	1			
	Ulcer, duodenal, perforated		1			1	
395	Other diseases of the intestines: Stricture of rectum, benign		2			2	
396	Ankylostoma duodenalis	11	1188			1189	10
397	Ascaris lumbricoides	8	1357			1335	30
399	Balantidium coli		8			8	
401	Bothriocephalus latus		3			3	
407	Tenia nana		8			8	
408	Tenia saginata		35			35	
409	Tenia solium		1			1	
414	Cholecystitis		2			2	
415	Cholelithiasis	1	3	1		3	
423	Liver, cirrhosis of, chronic		1			1	
431	Appendicitis and typhlitis:						
	Appendicitis, gangrenous		1			1	
	Appendicitis—acute		6			6	
	Chronic		2			1	1
	Typhlitis with adhesions		1			1	
438	Peritonitis, nonpuerperal, suppurative, acute		1	1			
441	Spleen, enlargement of		1			1	
445	Spleen, other diseases of (excluding kala-azar): Splenomegalia, undetermined, chronic		1			1	
446	Other diseases of the digestive system: Appendectomy		1			1	
454	Nephritis, interstitial (Bright's disease), chronic		6	4		2	

Bilibid Prison report of sick—Continued.

	Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
455	Nephritis, parenchymatous:						
	Acute		4	2		2	
	Chronic	1	2			2	1
456	Nephrolithiasis		2			2	
459	Pyelitis, noncalculous		1	1			
462	Pyonephrosis		1			1	
490	Urethra, stricture of		2			2	
493	Other diseases of the bladder and adnexa: Fistula, perineal		1			1	
496	Epididymitis		7			7	
489	Hydrocele		69			68	1
491	Orchitis		1			1	
492	Paraphimosis		1			1	
495	Phimosis		8			8	
520	Endometritis		1			1	
548	Premature birth		2			2	
549	Other ailments and complications of the gravid state: Pregnancy, normal		2			1	1
550	Abortion		1				1
552	Labor, normal		3			2	1
	Stillbirth		2			2	
570	Suprarenal capsules, other diseases of: Hypernephroma, left		1	1			
578	Thyroid body, other diseases of: Goitre cystic		1			1	
585	Dermatitis:						
	Hand—						
	Infectious		1			1	
	Acute		1			1	
	General, undetermined		1			1	
588	Eczema:						
	Acute, both hands		1			1	
	Chronic	1	1			2	
591	Erythema		1			1	
594	Herpes zoster		6			6	
595	Ichthyosis		1			1	
602	Nails, ingrowing		3			3	
605	Pediculosis: Capitis		3			3	
606	Pemphigus: Contagiosus, acute		1				1
614	Scabies		8			8	
618	Urticaria	1	2			3	
622	Abscess, acute; phlegmon:						
	Abdominal wall		3			3	
	Arm		1			1	
	Breast		1			1	
	Buttock		2			2	
	Chest wall		1			1	
	Foot		8			8	
	Hand		1			1	
	Leg	1	4			5	
	Lip		1			1	
	Perineal		3			3	
	Shoulder		1			1	
	Submaxillary		2			2	
	Knee		1			1	
	Gluteal, left		1			1	
	Thumb		1			1	
	Scrotum		1			1	
	Plegmon of neck		1	1			
625	Bunions, suppurating, acute		1			1	
626	Carbuncle:						
	Upper lip		1			1	
	Back		1			1	
	Back of neck		3			3	
629	Cysts:						
	Inferior maxilla		1			1	
	Sebaceous—						
	Buttock		1			1	
	Gluteal		1			1	
	Submaxillary		1			1	
	Sebaceous		1			1	
681	Furuncle:						
	Buttock		1			1	
	Face		2			2	
	Furunculosis		1			1	
688	Lymphangioma: Cheek		1			1	
695	Lipoma:						
	Left buttock		1			1	
	Back of neck		1			1	
641	Papilloma:						
	Anus		1			1	
	Shoulder, congenital		1			1	

Bilibid Prison report of sick—Continued.

	Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
642	Ulcer:						
	Buttock		1			1	
	Arm, chronic		1			1	
	Foot, chronic		4			4	
	Leg, chronic	2	5			6	1
652	Mastoiditis, right, chronic		1			1	
659	Osteomyelitis, right tibia, chronic		1				1
666	Ankylosis: Elbow		1			1	
667	Arthritis, acute, left knee		1			1	
671	Synovitis		1			1	
684	Other diseases of the organs of locomotion:						
	Fistula, foot		1			1	
702	Harelip		2			2	
709	Other malformations:						
	Deformity of great toe, congenital		1			1	
	Hammer fingers		1			1	
	Supernumerary digits, thumb, right hand		1			1	
	Webtoes		1			1	
710	Senile debility	2	2			2	2
711	Abrasions and blisters, mechanic		1			1	
	Right foot		1			1	
714	Burns by fire:						
	Axillary contractures		1			1	
	Second degree		1			1	
717	Contusions:						
	Chest, right side	1				1	
	Foot, right		1			1	
	Kidney		1			1	
	Right knee		1			1	
	Neck		1			1	
	Foot		1			1	
719	Dislocations:						
	Shoulder, subcoracoid		1			1	
	Right shoulder		1			1	
722	Fractures:						
	Coracoid process of right scapula		1			1	
	Femur, surgical neck		1			1	
	Tibia and fibula, left		1			1	
	Radius, left, upper third	1				1	
	Right humerus, surgical neck		1				1
	Ribs, left		1			1	
	Base of skull		1			1	
	Left clavicle, outer third		1			1	
	First phalanx of right forefinger		1			1	
724	Scalds: Hot tar		2			2	
725	Sprains		1			1	
	Back		1			1	
	Left foot		1			1	
731	Wounds, contused: Toes		1			1	
733	Wounds, incised:						
	Deltoid, right		2			2	
	Right elbow joint		1			1	
	Foot		1			1	
734	Wounds, lacerated:						
	Foot		7			7	
	Foot, infected	1	3			4	
	Perineum		1			1	
	Urethra		1			1	
735	Wounds, punctured:						
	Foot		1			1	
	Infected		1			1	
736	Other accidental causes:						
	Amputation of fingers	1				1	
	Loss of left auricle, traumatic		1			1	
	Paralysis, median nerve, traumatic		1			1	
	Nostrils, traumatic stricture		1			1	
	Infection left thigh		1			1	
745	Fever, undetermined		13			13	
747	Under observation	6	140			134	12
	Total	259	4,887	126	19	4,710	291

BILIBID PRISON REPORT OF DEATHS.

Diseases.	Presidio.				Carcel.				Total.	Conditions.			
	Filipinos.		Chinese.		Filipinos.		Chinese.						
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Married.	Single.	Widowed.	Unknown.
Beriberi	1				3				4	3	1		
Cancer and other malignant tumors of periteneum, intestines, and rectum:													
Sarcoma of intestines	1								1	1			
Cholelithiasis, chronic							1		1		1		
Dysentery, amebic, chronic	2				1				3	3			
Empyema	2								2	1		1	
Hypernephrona, left adrenal	1								1			1	
Lung, abscess of	1				1				2			2	
Lung, gangrene of	2								2	1	1		
Nephritis, interstitial (Bright's disease), chronic	3				1				4	3	1		
Nephritis, parenchymatous, acute	1				1				2	1	1		
Meningitis, cerebral, suppurative, acute							1		1		1		
Other forms of mental alienation	6				3				9	3	4	2	
Peritonitis, nonpuerperal, suppurative, acute							1		1	1			
Peritonitis, suppurrative, due to perforated duodenal ulcer							1		1				1
Phlegmon neck	1								1			1	
Pleurisy, obliterative, chronic	1								1	1			
Pneumonia, lobar	6				5		1		12	9	1	2	
Pyelitis, noncalculous	1								1	1			
Pyemia							1		1		1		
Scurvey	1								1		1		
Tetanus	1						1		2	1	1		
Tuberculosis disseminated	1								1		1		
Tuberculosis, miliary, acute					1				1	1			
Tuberculosis of other organs, chest, wall, left	1								1			1	
Tuberculosis of the lungs	66		2		11		2		81	38	31	12	
Tuberculous peritonitis	1								1	1			
Typhoid fever, abdominal typhus					1				1	1			
Legally executed					9				9	5	3	1	
Total	100		2		37		9		148	75	49	23	1

Died in Bilibid Hospital, 127; legally executed, 9; died in San Lazaro Hospital, 11; died on board the steamer *Ysidoro Pons*, 1. Total, 148.

One stillbirth also reported.

IWAHIG PENAL COLONY SICK REPORT.

	Diseases.	Remaining July 1, 1911.	Admitted.	Died.	Discharged.	Remaining.
2	Beriberi: Œdematous		1		1	
7	Dysentery: Amebic, chronic	1	12		11	2
17	Malaria:					
	Black water fever		2	2		
	Cachexia		24	1	23	
	Estivo-Autumnal		30		30	
	Quartian		4		4	
	Tertian	8	662	1	666	3
18	Measles		11		11	
60	Myalgia		16		16	
65	Septicemia, nonpuerperal		2	1	1	
71	Syphilis, tertiary		3	1	2	
80	Tuberculosis of the lungs	13	50	14	43	6
84	Tuberculous adenitis, cervical		1		1	
96	Brain, softening of		1	1		
129a	Maniacal exaltation		1		1	
139	Cerebral syphilis		1		1	
153	Headache		2		2	
158	Migraine		1		1	

Iwahig penal colony sick report—Continued.

	Diseases.	Remaining July 1, 1911.	Admitted.	Died.	Discharged.	Remaining.
159	Neuralgia		3		3	
160	Neurasthenia		1		1	
161	Neuritis, peripheral		1		1	
174	Conjunctivitis, acute		2		1	1
185	Iritis		1		1	
222	Endocarditis, acute		3	1	1	1
225	Heart, dilatation of		1	1		
229	Mitral incompetency		1		1	
230	Mitral stenosis		2		2	
242	Arterio-sclerosis		6		6	
251	Hemorrhoids, external		1		1	
261	Adenitis, nonvenereal:					
	Inguinal, acute, suppurative		1		1	
	Cervical		1		1	
262	Lymphangitis, nonvenereal		1		1	
283	Nasal fossæ, abscess of		1		1	
291	Bronchitis:					
	Acute		9		9	
	Chronic		2		2	
292	Broncho-pneumonia		2		2	
293	Hemoptysis		1		1	
296	Lung, edema of		1	1		
300	Pneumonia, lobar		3	3		
330	Gingivitis		1		1	
334	Pharyngitis, acute		1		1	
335	Stomatitis, acute		1		1	
336	Tonsillitis, chronic		1		1	
339	Other diseases of the mouth, pharynx, and esophagus: Parotiditis		1		1	
344	Gastritis, acute		2		2	
359	Anus, abscess of	1			1	
360	Anus, fistula of		1		1	
365	Constipation:					
	Acute	2	7		9	
	Chronic		4		4	
368	Enteritis, acute		3		3	
396	Ankylostomiasis		7		7	
399	Balantidium coli		1		1	
402	Oxyuris vermicularis		1		1	
404	Strongyloides intestinalis		1		1	
409	Tenia solium		3		3	
411	Trichocephalus dispar		1		1	
414	Cholecystitis		1		1	
418	Hepatitis		32		32	
423	Liver, cirrhosis of		6		6	
424	Liver, congestion of		37		37	
443	Spleen, inflammation		1		1	
454	Nephritis, interstitial, chronic		16		15	1
455	Nephritis, parenchymatous, acute		1		1	
585	Dermatitis: Venenata		1		1	
593	Herpes		1		1	
594	Herpes zoster		1		1	
614	Scabies		1		1	
616	Tinea (sycosis)		1		1	
621	Other diseases of the skin:					
	Ecthyma		1		1	
	Keratosis planter		1		1	
622	Abscess, acute; phlegmon:					
	Arm		1		1	
	Finger		1			1
	Foot	1	5		6	
	Hand		7		7	
	Inguinal		1		1	
	Perineal		1		1	
	Shoulder		1		1	
	Testicle		1		1	
	Thigh		6		6	
626	Carbuncle:					
	Cheek		1		1	
	Neck		1		1	
631	Furuncle:					
	Abdominal		1		1	
	Groin		1		1	
	Thigh		2		2	
642	Ulcer: Leg		1		1	
643	Ulcer, tropical		1		1	
647	Abscess, alveolar	1			1	
667	Arthritis, acute		3		3	
672	Other diseases of the joints		1		1	
711	Abrasions and blisters, mechanical; Foot		1		1	
714	Burns of fire; Foot (first degree)		1		1	

Iwahig penal colony sick report—Continued.

	Diseases.	Remaining July 1, 1911.	Admitted.	Died.	Discharged.	Remaining.
717	Contusions:					
	Back		2		2	
	Foot		3		1	2
	Right hypochondrium		2		2	
719	Dislocations: Foot		1		1	
720	Drowning accidental		1	1		
722	Fractures:					
	Radius and ulna		1		1	
	Femur (refracture)		1		1	
	Clavicle		1		1	
725	Sprains		1		1	
730	Venomous bites and stings		2		2	
731	Wounds, contused:					
	Eye		2		2	
	Hand		1		1	
	Left hypochondrium		1		1	
	Scalp		1		1	
	Toe		2		2	
733	Wounds, incised:					
	Finger		2		2	
	Foot		11		10	1
	Hand		5		5	
	Knee		1		1	
734	Wounds, lacerated:					
	Amputation of finger		1		1	
	Foot	3	8		11	
	Hand	1	1		2	
	Toe		1		1	
735	Wounds, punctured: Foot		2		1	1
736	Other accidental causes: Wounds, shark bite		3		3	
741	Wounds, homicidal		3	1	2	
747	Under observation		11		10	1
	Total	33	1,114	29	1,095	23

NOTE.—Patients admitted 1,111, of whom three had two diseases each. Patients in hospital 22, of whom one has two diseases.

STOCKADE HOSPITAL REPORT OF SICK.

	Diseases.	Remaining at last quarter.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
7	Dysentery	1	42		7	35	1
8	Erysipelas		1			1	
9	Fever, dengue		9			9	
16	Leprosy		1		1		
17	Malaria		12			12	
18	Measles		11			11	
21	Mumps	31	122			152	1
28	Other epidemic diseases		3			3	
41	Chancroid and chancroidal bubo		2		1	1	
54	Gonorrhea and gonorrheal bubo		2			2	
60	Myalgia		36			36	
67	Rheumatism, articular	1	2			3	
80	Tuberculosis of the lungs		24		21	3	
82	Tuberculosis of other organs		1		1		
86	Tubercular peritonitis		1		1		
121	Spastic paraplegia		1		1		
127	Other diseases of the spinal cord		3		3		
137	Periodic insanity		1		1		
153	Headache		9			9	
154	Hiccough		1			1	
159	Neuralgia		1			1	
161	Neuritis		1			1	
162	Sciatica		5			5	
171	Blepharitis		2			2	
174	Conjunctivitis	1	537			535	3
175	Conjunctivitis, follicular		9			8	1
185	Iritis		2			2	
196	Pterygium		1			1	

Stockade hospital report of sick—Continued.

	Diseases.	Remaining at last quarter.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
198	Staphyloma		1			1	
202	Other tumors of the eye and its adnexa		4			4	
208	Other diseases of the eye and its adnexa		1			1	
210	Inflammation or ulceration of the ear		10			10	
218	Other diseases of the ear and its adnexa		2			2	
229	Mitral insufficiency		3		2	1	
234	Tricuspid insufficiency		1			1	
251	Hemorrhoids		13		1	11	1
258	Varicose ulcers		1			1	
259	Varicose veins		3		1	2	
261	Adenitis, nonvenereal		8			8	
262	Lymphangitis, nonvenereal		5			5	
270	Pilariasis		5		5		
276	Coryza		25			24	1
281	Laryngitis		2			2	
291	Bronchitis		97		1	94	2
292	Broncho-pneumonia		2			2	
294	Lung, congestion of		1	1			
300	Pneumonia, lobar	1	31	1	1	30	
303	Asthma		5		4	1	
309	Pleurisy, fibrinous		1			1	
320	Dental caries		8			8	
331	Glossitis		1			1	
334	Pharyngitis		4			4	
336	Tonsillitis		17			17	
337	Toothache		3			3	
340	Anorexia, simple		1			1	
343	Gastralgia		7			7	
344	Gastritis		5			5	
346	Indigestion		40			40	
357	Stomach, ulcer of		1			1	
361	Anus, fistula of		2			2	
363	Colic, intestinal		5			5	
365	Constipation		59			59	
363	Diarrhea		34			33	1
368	Enteritis		1			1	
371	Gastro-enteritis		53			53	
374	Hernia, inguinal		5		1	4	
376	Hernia, strangulated		1			1	
391	Rectum, fistula of		6			6	
393	Rectum, prolapse of		1		1		
396	Ankylostoma duodenalis		29			29	
397	Ascaris lumbricoides		13			13	
404	Strongyloides intestinalis		2			2	
407	Tenia nana		2			2	
411	Tricocephalus dispar		17			17	
419	Icterus		2			2	
431	Appendicitis and typhlitis		7		2	5	
441	Spleen, enlargement of		1		1		
448	Hematuria		1			1	
455	Nephritis, parenchymatous		1			1	
463	Other diseases of the kidneys		1			1	
470	Cystitis		3			3	
480	Urethra, stricture of		4			4	
483	Other diseases of the bladder and adnexa		7			7	
486	Epididymitis		1			1	
489	Hydrocele	1	8			9	
491	Orchitis		1			1	
583	Callosities		3			3	
585	Dermatitis		3			3	
586	Dhobie itch		14			13	1
588	Eczema		1			1	
594	Herpes zoster		2			2	
605	Pediculosis		1			1	
606	Pemphigus		4			4	
609	Pompholix		4			4	
612	Psoriasis		7			7	

Stockade hospital report of sick—Continued.

	Diseases.	Remaining at last quarter.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
615	Seborrhea		1			1	
621	Other diseases of the skin		7			7	
622	Abscess, acute; phlegmon		93		1	90	2
626	Carbuncle	4	15		3	16	
629	Cysts		1			1	
630	Fibroma		2			2	
631	Furuncle		198			188	10
642	Ulcer		22		2	20	
646	Other tumors and growths of the skin, non-malignant		2			2	
661	Periostitis		3			3	
662	Periostosis		1			1	
666	Ankylosis		1		1		
667	Arthritis		1			1	
668	Bursitis		1			1	
671	Synovitis		11			11	
683	Torticollis		1			1	
684	Other diseases of the organs of locomotion		32			32	
717	Contusions	1	34			35	
719	Dislocations		1		1		
722	Fractures		10	2	1	7	
723	Poisoning		2			2	
725	Sprains		15			14	1
730	Venomous bites and stings		1			1	
731	Wounds, contused		114			108	6
732	Wounds, firearm		1			1	
733	Wounds, incised	2	23	2		23	
734	Wounds, lacerated		80	1		79	
735	Wounds, punctured		66	1		65	
736	Other accidental causes		9		2	7	
743	Convalescent		2			1	1
745	Fever, undetermined	15	224			237	2
746	Malingering		8			8	
747	Under observation		88			88	
748	Undetermined	9	190		6	192	1
	Total	67	2,716	8	74	2,666	85

STATISTICS FOR SAN LAZARO HOSPITALS DIVISION.

Patients in hospital July 1, 1911	443
Patients admitted during the year	2,688
Patients discharged during the year	2,073
Patients transferred during the year	221
Patients escaped during the year	11
Patients died during the year	295
Patients remaining June 30, 1912	530

AVERAGE NUMBER OF PATIENTS TREATED PER DAY.

July, 1911	443	January, 1912	455
August, 1911	460	February, 1912	433
September, 1911	432	March, 1912	533
October, 1911	444	April, 1912	543
November, 1911	409	May, 1912	537
December, 1911	433	June, 1912	530

AVERAGE COST OF SUBSISTENCE PER PERSON PER DAY.

July, 1911	P0.273	January, 1912	P0.257
August, 1911	.267	February, 1912	.270
September, 1911	.278	March, 1912	.2901
October, 1911	.252	April, 1912	.2902
November, 1911	.253	May, 1912	.278
December, 1911	.276	June, 1912	.306

Statistics for San Lazaro Hospitals Division—Continued.

INSANE AND LEPER DEPARTMENTS.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
INSANE DEPARTMENT.											
In hospital at last report	7	1	2	.....	186	37	3	.....	1	.....	237
Admitted	42	2	6	.....	98	60	3	.....	5	.....	216
Discharged	41	3	5	.....	27	28	2	.....	3	.....	109
Transferred	.....	.....	1	.....	8	3	1	.....	.....	.....	13
Escaped	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Died	3	.....	.....	.....	46	8	1	.....	.....	.....	58
Remaining	5	1	2	.....	202	58	2	.....	3	.....	273
LEPER DEPARTMENT.											
In hospital at last report	.....	.....	1	.....	102	61	.....	.....	.....	.....	164
Admitted	1	.....	.....	.....	219	91	12	.....	.....	.....	323
Discharged	.....	.....	.....	.....	12	10	8	.....	.....	.....	30
Transferred	.....	.....	.....	.....	15	11	3	.....	.....	.....	29
Escaped	.....	.....	1	.....	141	64	.....	.....	.....	.....	206
Died	.....	.....	.....	.....	2	5	.....	.....	.....	.....	7
Remaining	1	.....	.....	.....	8	6	.....	.....	.....	.....	15
	.....	.....	.....	.....	143	56	1	.....	.....	.....	200

INSANE AND LEPER DEPARTMENTS, BY RACES.

Nationalities.	In hospital July 1, 1911.		Admitted.		Discharged.		Transferred.		Escaped.		Died.		Remaining.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
INSANE DEPARTMENT.														
Americans	7	1	42	2	41	3	.....	.....	.....	.....	3	.....	5	.....
Europeans	2	.....	6	.....	5	.....	1	.....	.....	.....	.....	.....	2	.....
Filipinos	186	37	98	60	27	28	8	3	1	.....	46	8	202	58
Chinese	3	.....	3	.....	2	.....	1	.....	.....	.....	1	.....	2	.....
Others	1	.....	6	.....	4	.....	.....	.....	.....	.....	.....	.....	3	.....
Total	199	38	155	62	79	31	10	3	1	.....	50	8	214	58
LEPER DEPARTMENT.														
Americans	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Europeans	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Filipinos	102	61	219	91	27	21	141	64	2	5	8	6	143	56
Chinese	.....	.....	12	.....	11	.....	.....	.....	.....	.....	.....	.....	1	.....
Others	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	103	61	232	91	38	21	142	64	2	5	9	6	144	56

VARIOLOID DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
In hospital at last report	.....	.....	.....	.....	2	2	.....	.....	.....	.....	4
Admitted	1	1	.....	.....	408	224	.....	.....	2	.....	636
Discharged	1	1	.....	.....	403	223	.....	.....	2	.....	630
Transfered	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Died	.....	.....	.....	.....	[a]2	[a]1	.....	.....	.....	.....	[a]3
Remaining	.....	.....	.....	.....	5	2	.....	.....	.....	.....	7

Statistics for San Lazaro Hospitals division—Continued.

VARIOLOID DEPARTMENT—Continued.

Date.	In hospital July 1, 1911.	Admitted.	Discharged.	Died.	Remaining.
1911.					
July	4	3	7		
August		4	4		
September		5	3		2
October		2	3		1
November		9	5		5
December		33	34		4
1912.					
January		60	37		27
February		166	121	[a]2	70
March		163	194	[a]1	38
April		124	120		42
May		46	74		14
June		21	28		7
Total	4	636	630	[a]3	7

[a] Not from varioloid.

NOTE.—Five of cases admitted not varioloid.

MEASLES DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
In hospital July 1, 1911	1	0	0	0	1	0	0	0	0	0	2
Admitted	11	13	0	0	288	210	0	3	1	1	527
Discharged	12	13	0	0	281	205	0	3	1	1	516
Escaped	0	0	0	0	1	0	0	0	0	0	1
Died	0	0	0	0	6	1	0	0	0	0	7
Remaining	0	0	0	0	1	4	0	0	0	0	5

Date.	In hospital July 1, 1911.	Admitted.	Discharged.	Died.	Remaining.
1911.					
July	2	8	10		
August					
September					
October		12	12		
November		14	8		6
December		34	35		5
1912.					
January		99	77	2	25
February		153	136	2	40
March		115	147	1	7
April		44	[a]42	1	8
May		39	40		7
June		9	10	1	5
Total	2	527	[a]517	7	5

[a] Escaped, one.

TUBERCULOSIS DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
In hospital July 1, 1911					26	7					33
Admitted	3		5	1	504	228	2		5		743
Discharged			2	1	383	168	2		4		560
Died	1		3		116	53			1		174
Remaining	2				31	9					42

Statistics for San Lazaro Hospitals division—Continued.

DIPHTHERIA DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
In hospital July 1, 1911											
Admitted	8	10	1	3	30	30					82
Discharged not diphtheria	1	1			4						6
Discharged	7	9	1	3	21	22					63
Died					5	8					13
Remaining											

Of the cases admitted to the diphtheria department, 24 were bacilli carriers and 2 were contacts not found positive.

CHOLERA DEPARTMENT.

In hospital July 1, 1911											
Admitted	1				10	3					14
Discharged not cholera	1				10	3					14
Died											
Remaining											

BUBONIC PLAGUE DEPARTMENT.

In hospital July 1, 1911											
Admitted						1					1
Discharged											
Died						1					1
Remaining											

MISCELLANEOUS DISEASES.

Diseases.	In hospital July 1, 1911.	Admitted.	Discharged.	Transferred.	Escaped.	Died.	Remaining.
Tetanus		19	7			12	
Parotitis		33	28		1		4
Observation	2	33	28	2		5	
Cholera contacts		7	7				
Pertussis		6	5			1	
Opium habit		1	1				
Erysipelas		5	5				
Syphilis		3	3				
Rabies		1				1	
Suspected rabies contact		1	1				
Gas bacillus		2				2	
Meningitis		1				1	
Dog bite		2	2				
Suspected cholera contacts		27	27				
Carcinoma		1				1	
Beriberi		1			1		
Bichloride poisoning		1				1	
Tonsillitis		1	1				
Total	2	145	115	2	2	24	4

NOTE.—Two of cases admitted as tetanus were discharged not tetanus. Three of cases admitted as pertussis were discharged not pertussis.

Statistics for San Lazaro Hospitals division—Continued.

SAN LAZARO MORGUE REPORT.

Bodies received.	Number of bodies.	Bodies received.	Number of bodies.
Remaining in morgue from last year		Dropped:	
Received:		Buried by city	243
Cholera	1	Buried by family	57
Bubonic plague	4	Buried by Bureau of Prisons	2
Leprosy	15	Turned over to family	13
Diphtheria	13	Cremated	32
Tetanus	13	Turned over to Army Morgue	1
Rabies	1		
Typhoid fever	1	Total	348
Pulmonary tuberculosis	182		
All other diseases	118		
Total	348		

MORGUE AND CREMATORY DEPARTMENT.

Diseases.	1911						1912						Total.
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	
Cholera	1												1
Bubonic plague										2		2	4
Leprosy			3	2	1	2	1	2		2	1	1	15
Smallpox													
Diphtheria		2		1	1	2	2		1	1		3	13
Tetanus					1	3	1	1	4	1		2	13
Rabies				1									1
Typhoid fever			1										1
Bacillary dysentery		1										1	2
Gas bacillus					2								2
Poisoning	1												1
Drowning	1												1
Pulmonary tuberculosis	21	10	11	11	19	19	16	13	17	19	13	13	182
Stillborn						1							1
Other diseases	12	9	6	9	8	4	14	13	11	8	6	7	107
Violence						1							1
Suicide											1		1
Meningitis						1							1
Measles												1	1
Total	36	22	21	24	32	33	34	29	33	33	21	30	348

CHINESE HOSPITAL SICK REPORT.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Males.	Females.	
In hospital at last report	32		32
Received	233		233
Discharged	130		130
Transferred			
Died	108		108
Remaining in hospital	27		27

REPORT OF PRESCRIPTIONS FILLED AT THE CENTRAL FREE DISPENSARY.

Health districts.	Americans.				Foreigners, adults, males.	Filipinos.				Chinese, adults, males.	Total.
	Adults.		Children.			Adults.		Children.			
	Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.		
No. 1, Intramuros	2,738	1,222	2	28	59	9,453	7,074	1,987	1,683	2	24,198
No. 2, Meisic	43	.....	.....	.....	4	1,763	1,233	459	342	44	3,889
No. 4, Sampaloc	37	18	.....	.....	.....	1,966	1,302	1,580	1,023	.....	5,926
No. 5, Tondo	33	3	.....	2	.....	1,112	974	387	330	.....	2,841
No. 6, Paco	.....	.....	.....	.....	.....	245	139	151	176	.....	711
Province (Rizal)	.....	.....	.....	.....	1	26	6	.....	.....	.....	33
Total	2,851	1,243	2	30	64	14,565	10,728	4,514	3,555	46	37,598

REPORT OF SICK AND WOUNDED POOR ATTENDED BY MUNICIPAL PHYSICIANS.

Health districts and physicians.	Americans.		Foreigners.		Filipinos.			
	Adults, males.	Children, males.	Adults.		Adults.		Children.	
			Males.	Females.	Males.	Females.	Males.	Females.
No. 1, Intramuros, Dr. V. Cavanna	3	1	25	2	1,626	1,783	728	660
No. 2, Meisic, Drs. F. Herrera and C. Reyes	11	.....	1	.....	435	167	255	178
No. 4, Sampaloc, Dr. F. Castañeda	2	.....	2	.....	575	1,077	884	855
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	.....	.....	4	.....	1,502	978	849	558
No. 6, Paco:								
Dr. J. B. Cabarrus	1	1	1	1	280	194	143	122
Dr. Tee Han Kee	.....	.....	.....	.....	31	22	27	11
Total	17	2	33	3	4,429	4,221	2,886	2,382

Health districts and physicians.	Chinese.			Total.	Cured.		Deaths.		Number of visits.
	Adults.		Children, males.		Males.	Females.	Males.	Females.	
	Males.	Females.							
No. 1, Intramuros, Dr. V. Cavanna	.....	.....	.....	4,828	1,047	951	24	20	11,261
No. 2, Meisic, Drs. F. Herrera and C. Reyes	25	.....	1	1,073	531	259	2	4	4,364
No. 4, Sampaloc, Dr. F. Castañeda	2	.....	.....	3,397	198	291	79	67	4,197
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	9	.....	.....	3,898	1,507	888	13	13	6,880
No. 6, Paco:									
Dr. J. B. Cabarrus	1	.....	.....	734	224	208	13	16	1,890
Dr. Tee Han Kee	357	5	4	457	324	28	.....	.....	1,922
Total	394	5	5	14,387	3,926	2,620	131	125	30,514

CITY MORGUE REPORT.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	15	Transferred to Army Morgue	7
Received	773	Transferred to Government Museum (fœtus)	1
Total	788	Transferred to private morgue	1
		Remaining after the year	16
Buried by city	466		
Buried by family	297	Total	788

DISPOSITION OF DEAD BODIES.

Disposition.	Number.	Disposition.	Number.
Buried:		Santa Cruz Cemetery	116
Balicbalic Cemetery	1,199	Singalong Cemetery	499
Binondo Cemetery	271	Tondo Cemetery	126
Cathedral Church	1	Otherwise disposed of:	
Chinese Cemetery	327	Cremated	28
Malate Cemetery	377	Embalmed for shipment	14
Norte Cemetery	5,912	Preserved in alcohol (fœtuses)	1
Paco Cemetery	364	Remaining in City Morgue	16
Pandacan Cemetery:		Remaining in private morgues	4
Filipino Church	135	Remaining in Santo Tomas University	
Roman Catholic	55	Transferred to provinces	108
San Pedro Macati Cemetery (English)	2	Total	9,686
Santa Ana Cemetery	126		

In the above total there are included 347 stillbirths, 16 remaining in the City Morgue from previous year, and 38 bodies brought in from the provinces.

DISINTERMENTS.

Cemeteries.	Number.	Cemeteries.	Number.
Balicbalic	28	Paco	118
Binondo	1	Santa Ana	1
Chinese	63	Santa Cruz	28
Loma	7	Tondo	4
Malate	18		
Norte	11	Total	279

GENERAL INSPECTIONS OF HOUSES, PREMISES, VAULTS, ETC., WITH IMPROVEMENTS ORDERED, WHITEWASHED, CLEANED, ETC., BY MEDICAL INSPECTORS, SANITARY INSPECTORS, AND ASSISTANT SANITARY INSPECTORS.

1. Inspections of houses by sanitary inspectors	25,469
2. Reinspections of houses for verification of work ordered	4,165
3. Inspections of houses by assistant sanitary inspectors and sanitary policemen	616,715
4. Reinspections of houses by assistant sanitary inspectors and sanitary policemen	177,211
5. Houses ordered cleaned (written)	3
6. Houses ordered cleaned (verbal)	115,648
7. Houses cleaned	116,413
8. Houses ordered whitewashed and painted	537
9. Houses whitewashed and painted	505
11. Number of houses recommended condemned and removed	84
12. Number of houses condemned and removed	15
13. Number of localities where "squatters" are located	0
14. Number of samples of water, foods, etc., sent to laboratory	5,165
15. Number of reports for same	5,540
16. Number of fire-plugs opened or closed for sanitary purposes	0
17. Number of hydrants recommended reopened	0
18. Number of houses where garbage has not been removed for two days	52
19. Number of persons reported sick to municipal physicians	17,574
20. Cesspools and vaults ordered cleaned	103
21. Cesspools cleaned	37
22. Yards ordered cleaned	76,581
23. Yards cleaned	76,143
24. Yards ordered repaired (repaved, etc.)	0
25. Yards repaired	0
26. Number of cholera cases reported by sanitary inspectors	1
27. Number of cholera cases found alive	0
28. Number of cholera cases found dead	1
29. Number of orders issued during the year	1,146
30. Number of orders complied with during the year	846
31. Number of orders awaiting action	170
32. Number of orders pending in court	0
33. Average number of food tiendas in the districts	5,423
34. Number of persons convicted for violation of food prohibition orders	319
35. Average number of regular inspectors on duty	106
36. Average number of regular emergency inspectors on duty	68
37. Number of leprosy cases sent to San Lazaro Hospital	81
38. Number of plague cases reported	2
39. Number of smallpox cases reported (varioloid included), varioloid	42
40. Average number of houses in which traps were set	2,798
41. Average number of houses in which bane was placed	227
42. Average number of traps set	3,961
43. Average number of plates with bane placed	95
44. Rats caught by rat catchers	1,051

General inspections by sanitary officers—Continued.

45. Rats caught by traps	15,945
46. Rats caught by poison	0
47. Rats found dead	25
48. Average number of rat-catchers employed	1

REPORT OF DISINFECTIONS.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Anemia	1		Fleas	2	
Angina phlegmonous	2	14	Flies	1	
Anthrax	1		Gastro-enteritis	32	20
Athrepsia	1		Chronic	14	21
Beriberi	141	57	Glanders	4	
Blood poisoning	1		Gonorrhea	1	
Bronchitis	49	8	Gonorrheal opthalmia	1	
Bronchitis:			Ileo-colitis, chronic	1	
Capillary	3		Indigestion	2	
Chronic	20	2	Impetigo	1	
Broncho-pneumonia	8		Insanitary conditions	6,589	
Broncho-pneumonia:			Laryngitis, tuberculous	2	1
Complication of varicella	1	5	Leprosy	106	299
Complication of varioloid	1		Suspected	6	19
Endocarditis malignant	1		Malarial fever	6	9
Bubonic plague	2	[a] 60	Measles	333	1,903
Burns, third degree	1		And varicella	1	1
Cerebral congestion	1	3	Suspected	1	5
Chicken-pox	5	21	Meningitis	26	4
Cholera	1	5	Cerebral	3	2
Suspected	5	54	Chronic	1	
Convulsions	116		Tuberculous	9	1
Dengue and malarial fever	1		Mosquitos, larvæ	6	
Diarrhea	3	2	Nephritis	1	3
And dysentery	1		Chronic	7	12
And enteritis	6		Peritonitis perforative	1	14
And endocarditis, chronic	5		Pulmonary congestion	1	
Diphtheria	40	164	Rabies	2	
And varioloid	1		Rickets	1	
Bacillus carrier	4	5	Septicemia	1	
Distemper, acute	1		Sprue	2	
Dysentery	55	13	Syphilis	7	4
Amebic	1		Tetanus	10	3
And diptheria suspected	1		Ticks	1	
And enteritis, chronic	2		Tuberculosis, mesenteric	1	
Bacillary	2		Tuberculosis	539	281
Chronic	8	17	Typhoid fever	25	116
Chronic (cholera vibrio carier)	1	4	Undetermined	4	17
Empyema, pleurisy	1		Varicella	185	1,062
Endocarditis	1		And tuberculosis, pulmonary	1	
Enteritis	18	10	Varioloid	214	1,043
Chronic	55	41	Suspected	3	6
Entero-colitis	1		Vermin	23	
Chronic	2		Whooping cough	11	
Erysipelas	3		Yaws	1	
Exhumations	279				
Fever colibacillary	3		Total	9,040	5,341

[a] Includes 2 dogs and 5 cats.

REPORT OF CREMATION AT PALOMAR CREMATORY.

Animals cremated:	Number.	Refuse cremated:	Cartloads.
Australian horses	6	Condemned goods	597
Americans horses	3	Curtains	1
Bulls	26	Market	465
Carabaos	21	Organic matter	69
Cats	487	Rubbish	713
Cows	6	Sewer screenings	226
Deer	1	Slops	1,484
Dogs	384	Trade refuse	2,169
Fowls	2,057	Miscellaneous	68
Goats	48		
Monkeys	1	Total	5,782
Native ponies	13		
Pigs	558		
Rats	191		
Sheep	4		
Calves	4		
Total	3,815		

Also cremated 3,314 old pails and 1,683 garbage pails collected.

REPORT OF OPERATIONS OF THE PAIL-CONSERVANCY SYSTEM.

NIGHT-SOIL COLLECTIONS.

Where cleaned.	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.
Private houses	6,192	6,043	1,868	647,142
Public buildings	143	88	178	67,179
Midden sheds	209	207	2,105	756,017
Insular Bureaus	19	7	26	9,070
Military buildings	39	5	235	34,660
Total	6,602	6,300	4,407	1,514,068

CLEANED BY ODORLESS EXCAVATORS.

Where cleaned.	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	1,974	2,805	1,369,500
Public buildings	7	52	26,000
Midden sheds	2	11	5,500
Insular Bureaus	9	38	19,000
Total	1,992	2,906	1,420,000

REPORT OF ACTION TAKEN ON APPLICATIONS FOR LICENSES.

Kinds of licenses applied for.	Approved.	Disapproved.	Total acted upon.
Liquors:			
First-class bars	60	1	61
Second-class bars	7		7
Third-class bars	1		1
First-class bars and restaurants	30	1	31
Second-class bars and restaurants	10		10
Third-class bars and restaurants	1		1
Groceries	134	1	135
Druggists	13		13
Theaters	7		7
Wholesale	50		50
Hotels	18	1	19
Restaurants	763	74	837
Lodging houses	38	1	39
Boarding houses	99	35	134
Native wines	2,677	37	2,714
Cooked foods, fruits, vegetables, soft drinks, and bakery products	2,091	88	2,179
Barber shops	489	15	504
Livery stables	97	6	103
Laundries	36	3	39
Bill-posting and advertising agencies	19		19
Dance halls	13	1	14
Employment agencies	2		2
Junk shops	130	1	131
Manufactories	183	9	192
Tattooers	15	1	16
Master plumbers	3		3
Ice cream	56	3	59
Fruits, vegetables, and ice water	2	1	3
Drying and selling fish	33	26	59
Clubs	33	1	34
Tanneries	11		11
Electrical contractors	3		3
Billard and pool tables	208	52	260
Dyeing and cleaning establishments	17	2	19
Bakeries	10	6	16
Foundries	4		4
Cinematographs	21		21
Gelatine and pastries	31	4	35
Stock yards	3		3
Grocery stores	72	2	74
Hot coffee	59	2	61
Skating rinks	3		3
Dairies	10		10
Theaters	4		4
Pawnshops	12		12
Distilleries	12		12
Mercantile and collecting agencies	3		3
Embalmers	3		3
Breweries	1		1
Undertakers	10	1	11
Auctioneers	2		2
Cakes	1		1
Candles	1		1
To sell lime	1		1
Two additional automobiles	1		1
Drying establishment with two vehicles		1	1
Shooting galleries		1	1
Drying establishments	1		1
Samson sports	1		1
Merry-go-rounds	1		1
Ice water	2		2
Total	7,625	377	8,002

SANITARY ENGINEERING DIVISION.

STATISTICAL INFORMATION BY QUARTERS, MANILA, P. I., ONLY.

	1911		1912		Total.
	From July to September.	From October to December.	From January to March.	From April to June.	
Building plans, strong material:					
Approved	157	142	140	114	553
Completed	56	110	88	79	333
Building plans, light material, approved	186	545	142	143	1,016

STATISTICAL INFORMATION BY DISTRICTS, MANILA, P. I., ONLY.

	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Building plans, strong material:						
Approved	136	196	106	47	68	553
Completed	102	96	71	22	42	333
Building plans, light material, approved	63	1	95	566	291	1,016
Orders pending June 30, 1911						990
Orders issued:						
Minor orders	68	243	22	159	22	514
Sewer orders	22	78	22	3	7	132
Vacating orders	36	85	8	33	14	176
Total	126	406	52	195	43	822
Orders completed:						
Minor orders	68	184	38	153	21	464
Sewer orders	114	195	163	8	18	498
Vacating orders	46	112	22	18	34	232
Total	223	491	223	184	73	1,194
Orders canceled:						
Minor orders	7	5	5	1	8	26
Sewer orders	17	47	19	0	2	85
Vacating orders	4	1	1	72	2	80
Account of prosecutions	9	26	7	9	5	56
Total	37	79	32	82	17	247
Orders pending June 30, 1912:						
Minor orders						62
Sewer orders						271
Vacating orders						38
Total						371
Total legal prosecutions	10	62	8	9	5	94
Amounts of fines	₱220.00	₱705.00	₱20.00	₱50.00	₱50.00	₱1,045

REPORT OF LEPERS LIVING IN THE PHILIPPINE ISLANDS.

	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
Culion leper colony	(a)	1,644	971	302	160	570	275	698	435	74	101	2,615
San Lazaro Hospital	(b)	144	56	10	6	66	23	60	19	8	8	200
Moro Province	Filipino											25
Estimated number not yet transferred to Culion	do	42	30	3	3	10	4	26	19	3	4	72
Total		1,830	1,057	315	169	646	302	784	473	85	113	2,912

[a] Americans, 1; Europeans, 3; Filipinos, 2,610; Chinese, 1. Total, 2,615.
[b] Americans, 0; Europeans, 0; Filipinos, 199; Chinese, 1. Total, 200.

REPORT RECEIVED OF INSANE PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces, etc.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
Abra	Filipino	28	13	----	----	21	6	6	3	1	4	41
Agusan	....do	5	3	----	----	5	1	----	2	----	----	8
Albay	....do	40	45	----	----	28	27	10	9	2	9	85
Ambos Camarines	....do	61	59	2	1	38	34	12	10	9	14	120
Antique	....do	54	38	----	----	36	17	15	15	3	6	92
Bataan	....do	18	13	----	----	9	6	6	3	3	4	31
Batanes	....do	18	7	----	----	17	6	1	----	----	1	25
Batangas	....do	69	52	11	7	38	28	15	8	5	9	121
Bohol	....do	198	164	7	----	159	144	26	14	6	6	362
Bulacan	....do	41	28	----	1	27	13	8	8	6	6	69
Cagayan	....do	18	13	----	----	11	5	3	6	4	2	31
Capiz	....do	65	61	3	1	36	27	22	15	4	18	126
Cavite	....do	33	38	----	----	21	16	5	13	7	9	71
Cebu	....do	211	132	1	----	176	107	28	19	6	6	343
Hospicio de San Jose	(a)	47	41	----	----	----	----	----	----	----	----	88
Ilocos Norte	Filipino	74	30	----	1	60	16	13	8	1	5	104
Ilocos Sur	....do	101	58	1	2	68	31	22	18	10	7	159
Iloilo	....do	58	57	2	3	47	29	6	9	3	16	115
Isabela	....do	2	5	----	----	1	1	----	2	1	2	7
Laguna	....do	30	36	----	1	20	13	7	10	3	12	66
Leyte	....do	50	38	1	----	40	24	8	8	1	6	88
Misamis	....do	58	36	----	1	42	24	12	8	4	3	94
Negros Occidental	....do	68	31	1	1	47	17	10	8	10	5	99
Negros Oriental	....do	98	61	2	2	70	45	17	10	4	4	154
Nueva Ecija	....do	28	21	----	----	24	14	3	4	1	3	49
Nueva Vizcaya	....do	14	5	2	----	5	3	6	1	1	1	19
Pampanga	....do	38	39	----	----	24	17	10	10	4	12	77
Pangasinan	....do	115	90	1	----	60	39	40	33	14	18	205
Rizal	....do	40	30	----	----	28	15	8	10	4	5	70
Romblon	....do	11	4	----	----	4	2	4	2	3	----	15
Samar	....do	33	17	----	1	30	6	3	6	----	4	50
San Lazaro Hospital	(b)	214	58	----	----	109	17	84	32	21	9	272
Tarlac	Filipino	12	7	1	----	5	4	5	3	1	----	19
Tayabas	....do	98	68	4	1	75	47	12	15	7	5	166
Union	....do	39	31	3	1	16	21	15	6	5	3	70
Zambales	....do	17	15	1	----	13	6	3	6	----	3	82
Total		2,099	1,444	43	24	1,410	828	445	334	154	217	3,543

[a] Filipinos, 79; European, 9. Total, 88.
[b] Americans, 5; Europeans, 2; Filipinos, 260; Chinese, 2; others, 3. Total, 272.

REPORTS RECEIVED OF BLIND PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
Abra	Filipino	20	21	----	----	6	4	7	9	7	8	41
Agusan	....do	9	7	1	1	6	4	2	1	----	1	16
Albay	....do	76	63	6	5	44	40	23	5	3	13	139
Ambos Camarines	....do	88	64	11	8	30	30	29	8	18	18	152
Antique	....do	49	51	3	4	19	22	19	6	8	19	100
Bataan	....do	26	21	1	1	14	12	10	1	1	7	47
Batanes	....do	13	36	1	1	1	9	6	7	5	19	49
Batangas	....do	80	60	14	12	25	19	28	14	13	15	140
Bohol	....do	149	110	17	1	77	74	44	18	11	17	259
Bulacan	....do	61	62	4	4	28	29	22	12	7	17	123
Cagayan	....do	26	29	1	----	11	9	12	6	2	14	55
Capiz	....do	112	90	3	4	35	26	54	23	20	37	202
Cavite	....do	66	59	3	7	27	25	22	13	9	14	125
Cebu	....do	77	69	3	19	44	27	21	8	9	15	146
Ilocos Norte	....do	43	42	2	1	8	13	28	5	5	23	85
Ilocos Sur	....do	76	69	3	6	37	23	21	17	10	23	145
Iloilo	....do	100	104	3	5	46	49	30	19	16	31	204
Isabela	....do	7	14	----	----	2	2	3	4	2	3	21
Laguna	....do	57	40	3	4	28	14	13	9	3	13	97
Leyte	....do	75	58	7	4	43	33	16	11	9	10	133
Misamis	....do	64	39	6	4	36	16	13	10	9	9	103

Reports received of blind persons, etc.—Continued.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
Mountain	Filipino	49	32									81
Negros Occidental	do	102	69	9	5	50	36	17	9	26	19	171
Negros Oriental	do	82	50	7	1	43	23	25	11	7	10	122
Nueva Ecija	do	51	32	6	1	17	7	21	6	7	18	83
Nueva Vizcaya	do	11	7		2	7	1	3	1	1	3	18
Pampanga	do	113	111	11	6	54	51	31	17	17	37	224
Pangasinan	do	110	94	11	8	43	32	37	29	19	25	284
Rizal	do	79	59	3	5	29	24	35	12	12	18	138
Romblon	do	22	14	4		8	8	9	2	1	4	36
Samar	do	55	26	9	2	31	15	11	3	4	6	81
Tarlac	do	30	27	4	5	11	9	7	5	8	8	57
Tayabas	do	62	50	9	3	33	24	13	8	7	15	112
Union	do	34	31	5	4	13	9	8	9	8	9	85
Zambales	do	30	27	1	1	11	10	12	5	6	11	57
Total		2,104	1,787	191	134	917	734	652	323	295	514	3,841

BAGUIO HOSPITAL DIVISION.

HOSPITAL CASES.

	Diseases.	Number.
7	Dysentery:	
	Amebic—	
	Acute	10
	Chronic	8
	Bacillary, acute	42
8	Erysipelas:	
	Face, acute	1
16	Leprosy:	
	Tuberculous	1
17	Malaria:	
	Estivo-autumnal	16
	Tertian	20
18	Measles	20
21	Mumps	11
28	Smallpox:	
	Varioloid	20
24	Typhoid fever (abdominal typhus)	1
26	Varicella	1
30	Alcoholism, acute	9
35	Cancer and other malignant tumors of the stomach and liver:	
	Stomach	1
41	Chancroid and chancroidal bubo	1
55	Chancroid	1
55	Gonorrhea, other gonorrheic infections and results:	
	Urethritis, acute, anterior	2
	Vaginitis—	
	Acute	2
	Chronic	1
60	Myalgia	6
67	Rheumatism, articular:	
	Acute	8
71	Syphilis, acquired, secondary and tertiary:	
	Tertiary	1
80	Tuberculosis of the lungs	24
81	Tuberculosis of the meninges	1
84	Tuberculous adenitis:	
	Cervical, acute	1
155	Hysteria	2
160	Neurasthenia	6
162	Sciatica	3
171	Blepharitis	2
174	Conjunctivitis:	
	Acute	5
184	Injuries to eye:	
	Abrasion	1
	Burn, cornea	1
	Hemorrhage, anterior chamber	1
202	Other tumors of the eye and its adnexa:	
	Undetermined	1
208	Other diseases of the eye and its adnexa:	
	Ulcer of cornea	2
210	Inflammation or ulceration of the ear:	
	Otitis media—	
	Acute, catarrhal	1
	Chronic	1
	Suppurative	2
219	Aortic insufficiency	1
229	Mitral incompetency	3
242	Arterio-sclerosis	2
251	Hemorrhoids:	
	Internal	1
	External	1
259	Varicose veins	1
261	Adenitis, nonvenereal:	
	Inguinal, acute	1
262	Lymphangitis, nonvenereal:	
	Acute—	
	Arm	1
	Hand	1
	Leg	3
	Umbilicus	1
276	Coryza	11
277	Croup, nondiphtheritic	1
281	Laryngitis:	
	Acute	3
284	Nasal fossaes nd adjacent parts, inflammation of:	
	Rhinitis, hypertrophic, chronic	1
289	Other diseases of the nose and throat:	
	Spur of septum	1
291	Bronchitis:	
	Acute	46
	Chronic	6
292	Bronchopneumonia	13
295	Hemoptysis	1
300	Pneumonia, lobar	26
303	Asthma	2
309	Pleurisy, fibrinous:	
	Acute	1
320	Dental caries	2
334	Pharyngitis	1

Baguio Hospital division—Continued.

HOSPITAL CASES—Continued.

	Diseases.	Number.
336	Tonsillitis:	
	Acute	1
	Follicular	8
339	Other diseases of the mouth, pharynx and esophagus:	
	Abscess, alveolar	2
344	Gastritis:	
	Acute	29
346	Indigestion	2
365	Constipation:	
	Acute	2
	Chronic	7
366	Diarrhea:	
	Acute	12
368	Enteritis:	
	Acute, catarrhal	22
371	Gastro-enteritis:	
	Acute	8
374	Hernia, inguinal	1
391	Rectum, fistula of:	
	Chronic, suppurative	1
394	Sprue	1
396	Ankylostoma duodenalis	2
397	Ascaris lumbricoides	9
409	Tenia solium	3
410	Trichuris trichura	4
419	Icterus:	
	Catarrhal, acute	1
420	Liver, abscess of	1
423	Liver, cirrhosis of:	
	Atrophic	1
431	Appendicitis and typhlitis:	
	Acute—	
	Suppurative	1
	Catarrhal	2
	Chronic, catarrhal	1
	Subacute	1
438	Peritonitis, nonpuerperal:	
	Acute	2
450	Kidney, calculi of	1
454	Nephritis, interstitial (Bright's disease)	1
455	Nephritis, parenchymatous:	
	Acute	8
470	Cystitis:	
	Acute	3
471	Prostate, abscess of	1
480	Urethra, stricture of	1
482	Urine, retention of	1
498	Abscess, mammary	2
519	Dysmenorrhea	2
520	Endometritis	1
547	Pregnancy, vomiting of	1
550	Abortion	3
552	Labor, normal	11
553	Malpresentation	1
554	Miscarriage	2
555	Perineum, laceration of:	
	With cystocele and rectocele	1
560	Prolongued labor	1
	Instrumental delivery	1
562	Puerperal septicemia	1
602	Nails, ingrowing	2
604	Phagedena, tropical	1
606	Pemphigus contagiosa	2
616	Tinea imbricata	1
620	Yaws	4
622	Abscess, acute; phlegmon:	
	Abdominal	2
	Foot	6
	Hand	2
	Heel	1
	Neck	1
	Parotid	3
	Stitch, abdominal wall	1
	Thigh	2
	Leg	1
626	Carbuncle:	
	Back	2
642	Ulcer:	
	Chronic, chest	1
646	Other tumors and growths of the skin, nonmalignant:	
	Mole, thigh, pigmented	1
659	Osteomyelitis:	
	Jaw, acute, suppurative	1
678	Synovitis:	
	Knee, acute	2
679	Rupture of muscle, nontraumatic:	
	Leg	1
686	Cord hemorrhage of	2
694	Nurslings cared for in hospital without disease	17
711	Abrasions and blisters, mechanical:	
	Arm	1
	Chest	1
	Face	2
	Hand	2
	Leg	3
	Neck	1
	Thigh	1
713	Burns by corrosive substances:	
	Carbolic acid—	
	Back	1
	Leg	1
	Hydrochloric acid, leg	1
714	Burns by fire:	
	Hand	1
715	Concussion of brain	1
717	Contusions:	
	Arm	1
	Back	1
	Chest	5
	Eye	3
	Foot	2
	Face	1
	Hand	2
	Head	2
	Leg	3
	Neck	2
	Shoulder	4
	Thigh	6
718	Crushing:	
	Finger	3
	Leg	1
	Thumb	1
719	Dislocations:	
	Head of radius	1
	Tarsal and metatarsal, fifth	1
722	Fractures:	
	Arm	1
	Colle's	2
	Clavicle	1
	Humerus, compound	1
	Maxillary inferior	1
	Metacarpal bone	1
	Pelvic	1
	Ribs	4
	Skull	5
	Spine	1
	Tibia	2
	Compound	1
	Ulna	1
725	Sprains:	
	Ankle	2
	Elbow	1
	Wrist	2
729	Traumatism by fall:	
	Rupture of intestine	1
731	Wounds, contused:	
	Abdomen	1
733	Incised—	
	Arm	3
	Abdomen	1
	Back	1
	Chest	1
	Face	2
	Foot	3
	Forehead	1

Baguio Hospital division—Continued.

HOSPITAL CASES—Continued.

	Diseases.	Number.		Diseases.	Number.
731	Wounds, contused—Continued.		734	Wounds, lacerated—Continued.	
733	Incised—Continued.			Thumb	1
	Leg	3	735	Wounds, punctured:	
	Lip	1		Leg	3
	Neck	2		Thigh	1
	Scalp	4	743	Convalescent	2
	Foot, infected	2	746	Malingering	1
734	Wounds, lacerated:		747	Under observation	6
	Chest	1	748	Undetermined	1
	Finger	3		Total	715
	Hand	2			
	Leg	1			

TABLE OF DEATHS.

Dates.	Nationality.	Adult or child.	Sex.	Cause of death.
1911.				
July 12	Filipino	Adult	Male	Mitral and aortic insufficiency.
July 25	do	do	do	Tuberculosis, pulmonary acute.
July 27	do	do	do	Depressed fracture of skull with intracranial hemorrhage.
Aug. 13	Igorot	do	do	Burns, carbolic acid, external.
Aug. 15	Filipino	do	do	Carcinoma of stomach.
Aug. 19	do	Child	do	Broncho-pneumonia, acute.
Aug. 22	Igorot	Adult	do	Pneumonia, acute, lobar.
Aug. 23	do	do	do	Dysentery, bacillary, acute.
Sept. 12	Filipino	do	do	Incised wounds, abdomen, chest and arm.
Sept. 15	Igorot	do	do	Bacillary dysentery acute.
Oct. 3	Filipino	do	do	Tuberculosis of the lungs.
Oct. 8	Igorot	Child	do	Dysentery, bacillary, acute.
Oct. 28	do	Adult	do	Do.
Nov. 2	do	Child	do	Do.
Nov. 8	Filipino	Adult	do	Tuberculosis of the lungs.
Nov. 18	Igorot	do	do	Crushing of leg.
Dec. 24	American	do	do	Incised wounds, multiple, head and extremities.
1912.				
Jan. 7	Filipino	Adult	Female	Enteritis, acute, catarrhal.
Jan. 24	American	Child	Male	Dysentery, bacillary, acute.
Feb. 18	Igorot	Adult	do	Do.
Feb. 22	American	Child	do	Do.
Feb. 23	do	Adult	do	Nephritis, interstitial, chronic.
Mar. 12	Japanese	do	do	Appendicitis, acute, supparative, phlebitis, non-puerperal, portal; empyema.
Mar. 15	Filipino	Child	do	Gastro-enteritis, acute.
Mar. 18	American	do	do	Pneumonia, lobar.
Mar. 18	Igorot	Adult	do	Rheumatism, articular, acute; endocarditis, acute.
Mar. 19	do	do	do	Dysentery, bacillary, acute.
Mar. 21	do	Child	do	Do.
Mar. 22	do	Adult	do	Do.
Mar. 22	do	do	do	Do.
Apr. 3	do	do	do	Do.
Apr. 3	do	do	do	Cause unknown.
Apr. 5	Filipino	Child	Female	Broncho-pneumonia.
Apr. 6	Igorot	do	Male	Dysentery, bacillary, acute.
Apr. 12	do	Adult	do	Wound, contused, abdomen.
Apr. 17	American	do	do	Peritonitis, acute; nephritis, acute, parenchymatous; arterio sclerosis; gastro-enteritis, acute.
May 11	Filipino	Child	Female	Gastro-enteritis, acute.
May 12	do	Adult	Male	Tuberculosis of the lungs.
May 20	do	Child	do	Pneumonia, lobar.
May 27	do	Adult	do	Dysentery, bacillary, acute.
May 28	Igorot	do	do	Peritonitis, non-puerperal, acute: bronchitis, acute.
June 1	Filipino	do	do	Fracture skull, arm and leg.
June 2	Japanese	do	do	Traumatism by fall, rupture of intestine.
June 5	Igorot	do	do	Pneumonia, lobar.
June 7	Filipino	Child	do	Do.
June 15	do	do	do	Broncho-pneumonia.

Baguio Hospitdl division—Continued.

MEDICAL AND SURGICAL CASES—OUTDOOR CLINIC.

	Diseases.	Number of cases.
2	Beriberi:	
	Moist	2
7	Dysentry:	
	Amebic—	
	Acute	6
	Chronic	6
	Catarrhal, acute	1
17	Malaria	128
30	Alcoholism:	
	Acute	5
37	Cancer and other malignant tumors of the female genital organs:	
	Carcinoma; cervix uteri	1
41	Chancroid and chancroidal bubo	4
47	Diabetes mellitus	1
54	Gonorrhea and gonorrheal bubo:	
	Urethritis—	
	Acute anterior	17
	Chronic posterior	8
55	Gonorrhea, other gonorrheic infections and results:	
	Vaginitis, acute	1
	Epididymitis, acute	1
60	Myalgia	149
67	Rheumatism, articular:	
	Acute	34
	Chronic	1
70	Syphilis, acquired, primary	1
71	Syphilis, acquired, secondary and tertiary:	
	Secondary	1
	Tertiary	6
80	Tuberculosis of the lungs	34
82	Tuberculosis of other organs:	
	Kidney	1
84	Tuberculous adenitis:	
	Cervical—	
	Acute	2
	Suppurative	1
88	Vaccinia	4
153	Headache	14
156	Insomnia	18
158	Migraine	2
159	Neuralgia:	
	Brachial	1
	Cervical	1
	Intercostal	5
	Trifacial	5
160	Neurasthenia	49
161	Neuritis:	
	Acute, brachial	2
162	Sciatica	5
164	Vertigo (unqualified or simple)	1
170	Astigmatism	1
171	Blepharitis	6
172	Cataract:	
	Senile	1
174	Conjunctivitis:	
	Acute	88
	Chronic	6
178	Foreign body in conjunctiva:	
	Bulbar	4
184	Injuries to eye:	
	Foreign body in cornea	5
195	Pterygium	1
208	Other diseases of the eye and its annexa:	
	Ulcer cornea	2
200	Styes	12
204	Abscess of the ear:	
	External	1
210	Inflammation or ulceration of the ear:	
	Auditory canal	1
	Otitis media, acute—	
	Catarrhal	10
	Suppurative	7
212	Obstruction of auditory canal:	
	Wax	8
213	Otalgia	1
216	Tympanitis	2
221	Arythmia:	
	Tobacco	1
227	Heart, palpitation of	2
229	Mitral incompetency	2
242	Arterio-sclerosis	5
251	Hemorrhoids:	
	External	19
	Internal	3
259	Varicose veins	7
261	Adenitis, nonvenereal:	
	Axillary, acute, suppurative	2
	Cervical, acute	4
	Inguinal	1
262	Lymphangitis, nonvenereal:	
	Acute—	
	Hand	2
	Foot	1
	Leg	1
269	Epistaxis	1
276	Coryza	187
281	Laryngitis:	
	Acute	60
282	Nasal catarrhal, chronic	14
284	Nasal fossae and adjacent parts, inflammation of:	
	Rhinitis, acute	2
289	Other diseases of the nose and throat:	
	Ulcer of septum	1
291	Bronchitis:	
	Acute	552
	Chronic	41
292	Broncho-pneumonia	1
298	Hemoptysis	5
303	Asthma	10
309	Pleurisy, fibrinous:	
	Acute	5
319	Dentition	1
320	Dental caries	209
322	Epulis	3
330	Gingivitis	11
334	Pharyngitis:	
	Acute	80
	Chronic	6
335	Stomatitis:	
	Parasitic, acute	17
336	Tonsillitis:	
	Acute	42
	Follicular—	
	Acute	14
	Chronic	2
338	Uvulitis	1
339	Other diseases of the mouth, pharynx, and esophagus:	
	Abscess, alveolar	15
	Sprue	4
340	Anorexia, simple	9
344	Gastritis:	
	Acute	142
	Chronic	86
346	Indigestion	198
365	Constipation:	
	Acute	236
	Chronic	185
366	Diarrhea:	
	Acute	180
	Chronic	10
371	Gastro-enteritis:	
	Acute	5
374	Hernia, inguinal	2
378	Hernia, ventral	1
380	Intestines, fistula of:	
	Chronic	1
397	Ascaris lumbricoidis	25
408	Tenia saginata	3
410	Trichuris trichura	2
419	Icterus:	
	Catarrhal, acute	5

Baguio Hospital division—Continued.

MEDICAL AND SURGICAL CASES (OUTDOOR CLINIC)—Continued.

	Diseases.	Number of cases.
431	Appendicitis and typhlitis:	
	Acute, catarrhal	3
	Chronic	2
420	Liver, abscess of	1
454	Nephritis, interstitial (Bright's disease)	1
458	Nephrolithiasis	1
470	Cystitis:	
	Acute	19
478	Urethra, inflammation of	3
480	Urethra, stricture of	1
481	Urine, incontinence of	6
482	Urine, retention of	1
486	Epidydimitis	5
489	Hydrocele	1
495	Phimosis	2
504	Abscess, vaginal	1
506	Amenorrhea	5
514	Cervix, ulcer of	1
520	Endometritis	1
523	Mastitis	2
524	Menorrhagia	9
527	Oophoritis	1
530	Salpingitis, catarrhal	2
536	Uterus, displacements of	1
541	Vaginitis	8
542	Vulvitis	1
547	Pregnancy, vomiting of	3
549	Other ailments and complications of the gravid state:	
	Normal pregnancy; advice asked	4
550	Abortion	4
555	Perineum, laceration of	1
579	Acne:	
	Vulgaris	16
580	Alopecia	9
582	Bromidrosis	3
585	Dermatitis:	
	Acute—	
	Arm	1
	Buttocks	2
	Leg	3
	Venenata	15
586	Dhobie itch	39
588	Eczema:	
	Acute—	
	Arm	5
	Ears	6
	Face	18
	Foot	1
	Hand	7
	Leg	3
	Neck	5
	Scalp	1
	Chronic—	
	Back	4
	Breast	1
	Face	1
	Hand	2
	Neck	2
	Scalp	1
593	Herpes	24
595	Ichthyosis	4
596	Impetigo	13
602	Nails, in-growing	2
603	Onychia	2
605	Pediculosis:	
	Pubis	6
606	Pemphigus:	
	Contagiosa	33
610	Prickly heat	7
612	Psoriasis	1
614	Scabies	74
615	Seborrhea	9
616	Tinea:	
	Circinata	8
617	Trichophytosis	3
618	Urticaria	5
622	Abscess, acute; phlegmon:	
	Arm	4
	Axillary	2
	Buttocks	1
	Ischio-rectal	1
	Face	1
	Foot	4
	Finger	9
	Hand	7
	Leg	2
	Neck	2
	Parotid	1
	Sub-maxillary	1
	Thigh	1
	Thumb	4
626	Carbuncle:	
	Acute, neck	1
628	Corns:	
	Acute	6
629	Cysts:	
	Meibomian	1
	Sebaceous—	
	Back	2
	Buttocks	1
	Ear	3
	Face	1
	Forehead	1
	Neck	1
	Vaginal	1
631	Furuncle:	
	Acute—	
	Axillary	1
	Arm	5
	Abdomen	3
	Back	2
	Buttock	15
	Chest	1
	Face	17
	Forehead	4
	Leg	5
	Neck	6
	Thigh	2
639	Neuroma:	
	Multiple (hand and arms)	1
641	Papilloma:	
	Buttock	1
	Urethra	1
642	Ulcer:	
	Chronic—	
	Foot	1
	Leg	2
644	Warts:	
	Face	1
	Hand	1
645	Whitlow and felon	1
649	Caries, skull	1
652	Mastoiditis:	
	Acute, suppurative	1
659	Osteomyelitis:	
	Acute, leg	1
661	Periostitis:	
	Acute, leg	1
667	Arthritis:	
	Acute, maxillary	1
671	Synovitis:	
	Acute, knee	1
679	Rupture, muscle, leg	1
685	Cellulitis, umbilical	1
692	Lack of care	3
711	Abrasions and blisters, mechanical:	
	Arm	1
	Back	1
	Buttock	1
	Chest	1
	Face	4
	Foot	14
	Finger	14
	Hand	14
	Knee	5

Baguio Hospital division—Continued.

MEDICAL AND SURGICAL CASES (OUTDOOR CLINIC)—Continued.

	Diseases.	Number of cases.
711	Abrasions and blisters, mechanical—Continued.	
	Leg	17
	Penis	1
	Scalp	1
	Thigh	4
	Thumb	6
	Toes	10
	Infected—	
	Arm	1
	Buttock	1
	Finger	1
	Foot	4
	Hand	6
	Leg	5
	Shoulder	1
	Toe	1
713	Burns by corrosive substances:	
	Carbolic acid—	
	Leg	3
	Foot	1
	Lye, hand	1
	Petroleum, buttock	1
714	Burns by fire:	
	Leg	1
	Abdomen	1
	Arm	2
	Buttock	1
	Finger	2
	Foot	1
	Hand	4
	Thigh	1
	Toe	1
	Contusions:	
	Ankle	2
	Arm	5
	Back	1
	Chest	7
	Eye	2
	Face	2
	Foot	2
	Finger	1
	Head	1
	Jaw	1
	Knee	1
	Leg	2
	Neck	2
	Shoulder	2
	Thumb	2
	Toe	1
718	Crushing:	
	Finger	1
719	Dislocations:	
	Elbow	1
722	Fractures:	
	Colles	1
	Metacarpal bone	2
	Rib	1
	Tibia	1
	Ulna	1
725	Sprains:	
	Ankle	14
	Elbow	5
	Finger	5
	Knee	3
	Thumb	5
	Wrist	8
731	Wounds, contused:	
	Arm	2
	Ankle	1
	Back	1
	Finger	6
	Foot	6
	Hand	2
	Knee	3
	Leg	2
	Rib	1
	Shoulder	2
	Thigh	1
	Toe	1
	Infected—	
	Finger	1
	Head	1
	Leg	1
733	Wounds, incised:	
	Arm	4
	Back	1
	Ear	2
	Face	5
	Finger	7
	Forehead	5
	Hand	9
	Heel	1
	Foot	11
	Leg	8
	Scalp	8
	Thumb	4
	Toe	4
	Infected—	
	Arm	1
	Face	1
	Finger	9
	Foot	10
	Hand	2
	Leg	7
	Toe	6
	Chest	1
	Wounds, lacerated:	
734	Finger	6
	Foot	2
	Forehead	1
	Heel	1
	Knee	2
	Leg	2
	Lip	1
	Thumb	1
	Toe	2
	Wounds, punctured:	
735	Arm	2
	Foot	14
	Hand	8
	Leg	6
	Perineum	1
	Thumb	1
	Infected—	
	Finger	13
	Foot	8
	Hand	2
	Heel	1
	Leg	4
	Thumb	2
	Total	3,994

Baguio Hospital division—Continued.

REPORT OF TUBERCULOSIS CASES.

[Classification used is that recommended by the National Association for the Study and Prevention of Tuberculosis.]

Case No.	Race.	Sex.	Age.	Condition on admission.	Stage.	Lung involvement.	Gain in weight.	Complications.	Days treated.	Tuberculin treatment.	Condition on discharge.
							Kilos.				
146	American	Male	46	Moderately advanced.	II	Left upper lobe; right lower lobe	4.1	Heart hypertrophy; arteriosclerosis.	243		Arrested.
106	do	do	36	Incipient	I	Left apex	11.2	Pulmonary hemorrhage.	76		Do.
231	do	Female	28	do	I	Right apex	1		72		Do.
190	do	Male	30	Moderately advanced.	II	Right lower lobe	.5		70		Improved.
425	do	do	25	Incipient	I	Right apex	2		60		Do.
367	Filipino	Female	20	do	I	do	.5	Follicular tonsillitis	83		Arrested.
97	do	Male	24	Moderately advanced.	II	Left upper lobe; left lower lobe	5.4	Pulmonary hemorrhage.	568		Improved.
125	do	Female	25	do	II	Right upper lobe; left upper lobe	3.2		517		Do.
123	do	do	38	do	II	Right upper lobe; left apex	1		375		Do.
318	do	do	19	do	II	Right apex; patch in left upper lobe.	5		313		Do.
195	do	do	21	do	II	Left upper lobe; beginning left lower lobe.		Pulmonary hemorrhage, pleurisy fibrinous.	502	Mg. 0.0001 to mg. 5 in 5 months.	Progressive; unimproved.
388	do	Male	30	do	II	Right upper lobe; right lower lobe		Tubercular laryngitis.	351		Do.
519	do	do	17	do	II	Right upper lobe; beginning right lower lobe.	.4	Tubercular fistula in ano.	335		Do.

Patients treated during the year	13
Patients remaining in Hospital, July 1, 1912	5
Cases to be reported on (Americans, 5; Filipinos, 8)	13

Baguio Hospital division—Continued.

MISCELLANEOUS.

Patients remaining from fiscal year 1911	36
Cases admitted during fiscal year 1912	575
Total number of hospital cases during 1912	611
Total number of hospital cases remaining June 30, 1911	21
Total number of persons accompanying patients in hospital	38
Total number of patients outdoor department, hospital clinic	3,982
Total number of visits to hospital clinic	6,818
Total number of prescription filled	6,994
Total number of surgical dressings, hospital clinic	2,118
Total number of major operations performed	17
Total number of minor operations performed	424
Total number of laboratory examinations	779
Total number of prostitutes examined	201
Total number of Constabulary recruits, etc., examined	98
Total number of vaccinations at hospital	182
Total number of vaccinations in subprovince of Benguet	6,942
Total vaccinations	7,124
Total number of Americans treated in hospital	137
Total number of Filipinos treated in hospital	404
Total number of Japanese treated in hospital	48
Total number of Chinese treated in hospital	7
Total number of Europeans treated in hospital	15
Total number of male patients treated in hospital	473
Total number of female patients treated in hospital	138

CULION LEPER COLONY DIVISION.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Remaining at last report	1		3		1,430	881	1				2,316
Admitted			1		579	275					855
Born					14	8					22
Discharged					29	1					30
Readmitted					10	5					15
Transferred											
Escaped					58	4					62
Died			1		345	185					531
Remaining	1		3		1,639	971	1				2,615

MARRIAGES.

	Total marriages.	Single males married.			Widowed males married.			Divorced males married.			Nationality of brides.						Relationship.	
		Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.	Americans.	Filipinos.	Spaniards.	Other.	Chinese.	All others.	Blood.	Affinity.
Americans	1	1										1						
Filipinos	60	55	1		2	2						60						
Spaniards																		
Other Europeans																		
Chinese																		
All others																		
Total	61	56	1		2	2						61						

MARRIAGES, BY AGE.

Males.		Females.						
Age.	Number.	To 14 years.	To 20 years.	To 25 years.	To 30 years.	To 40 years.	To 50 years.	Over 50 years.
To 14 years								
To 20 years	9		8	1				
To 25 years	26		13	10	3			
To 30 years	11		3	6	2			
To 40 years	11		2	5	1	3		
To 50 years	3				2	1		
Over 50 years								
Age not stated	1				1			
Total	61		26	22	9	4		

COST OF MESSES.

Messes.	Total cost.	Average cost per person per day.
Leper	P125,744.4823	P0.144
Laborers	29,150.6762	.2447
Employees	11,365.681	1.162
Filipino (4 Mo.)	607.7695	.3342

POPULATION.

Number of colonists July 1, 1911	2,817
Number of colonists June 30, 1912	a 2,615
Admitted during the year	574
Admitted October 15, 1911	154
Admitted November 27, 1911	236
Admitted January 17, 1912	49
Admitted February 21, 1912	101
Admitted May 14, 1912	38
Admitted May 25, 1912	196
Total	874

a May 25, 2,654.)

BIRTHS.

Births during the year	29
Conceived in colony	21
Deaths among this number	7

Of this number 18 were legitimate and 10 were illegitimate.

ESCAPES.

Number escaped during the year	62
Recaptured	37
Transferred to San Lazaro	15
Readmitted from those sent to San Lazaro	2

MARRIAGES.

	Couples.		Couples.
July, 1911	10	February, 1912	6
August, 1911	8	March, 1912	2
September, 1911	4	April, 1912	3
October, 1911	2	May, 1912	3
November, 1911	2	June, 1912	3
December, 1911	5		
January, 1912	8	Total	61

Of this number 115 were single persons and 7 widowers.

CONTAGIOUS DISEASES.

Varicella	3
Varioloid	1

Culion leper colony division—Continued.

DEATHS.

July, 1911	67	February, 1912	86
August, 1911	46	March, 1912	92
September, 1911	32	April, 1912	25
October, 1911	26	May, 1912	29
November, 1911	24	June, 1912	36
December, 1911	31		
January, 1912	35	Total	531

CAUSES OF DEATH.

Anemia, pernicious	1
Arythmia, cardiac	8
Aspiration pneumonia and senile debility	1
Asthma	1
Beriberi	182
Bronchitis with senile debility	1
Bronchitis with leprous cachexia	1
Broncho-pneumonia	1
Cachexia:	
Leprous	182
Tubercular	5
Cancer of mouth	1
Debility:	
Congenital	4
Senile	27
Diarrhea	1
Dysentery	80
Dysentery and bronchitis	1
Drowning (asphyxiated)	1
Endocarditis	9
Enteritis:	
Acute	10
Gastro	1
Enter-colitis, acute	1
Exhaustion with senile debility	1
Fever, pernicious	8
Gangrene with septicemia	10
Hemoptysis with leprous cachexia	1
Hepatitis	8
Inanition	1
Intoxication, auto	2
Laryngitis with leprous cachexia	1
Malaria	13
Meningitis	2
Nephritis	1
Parotitis, with septicemia	1
Pneumonia	1
Septicemia	5
Tuberculosis	17
Total	531

Above classification furnished by the colony physician.

POPULATION BY NATIONALITY, ETC., JUNE 30, 1912.

	Males.	Females.		Males.	Females.
Americans	1	0	Single	570	275
Europeans	3	0	Married	698	435
Filipinos	1,639	971	Widowed	74	101
Chinese	1	0	Children	302	160
Total	2,615		Total	2,615	

EXPENDITURES.

Gratuities	₱23,069.00
Payrolls, etc	80,385.60
Subsistence supplies	166,868.559
Building supplies	120,320.82
Total	390,643.979

NOTE.—To building supplies should be added voucher number B. S. No. 88856-C, dated June 23, 1911. This voucher was sent to Central Office on April 24, 1912, for their information and was not returned as requested.

Statement does not include salaries, etc., paid from Manila office.

AMOUNT OF VACCINE VIRUS DISTRIBUTED BY THE BUREAU OF HEALTH.

	Units.
Amount on hand July 1, 1911	14,400
Received from the Bureau of Science	2,066,000
Total to be accounted for	2,080,400
Distributed as per itemized statement	2,044,900
Remaining on hand June 30, 1912	35,500
PLACES AT WHICH VACCINE VIRUS WAS DISTRIBUTED.	
Provinces:	
Agusan	10,000
Albay	36,600
Ambos Camarines	45,800
Baguio Hospital division	5,800
Bataan	8,800
Batangas	68,000
Bulacan	81,800
Cagayan	62,000
Cavite	19,000
Cebu	400,000
Culion leper colony division	5,000
Ilocos Sur	99,300
Ilocos Norte	55,200
Iloilo	300,600
Isabela	11,000
Laguna	46,100
Leyte	149,000
Provinces—Continued.	
Masbate	16,600
Mindoro	5,000
Mountain	29,400
Nueva Ecija	17,400
Nueva Vizcaya	12,600
Palawan	8,200
Pampanga	59,500
Pangasinan	80,000
Rizal	23,200
Samar	25,100
Sorsogon	28,700
Surigao	500
Tarlac	5,800
Tayabas	22,900
Union	119,900
Zambales	19,800
Canton, China	800
Total	1,879,900
Manila:	
Health districts	148,500
Other institutions	16,500
Total	165,000
Grand total	2,044,900

VACCINATIONS.

[Closed July 1, 1912.]

	Vaccinations.	Inspections.	Positive.	Negative.
Manila:				
Health district No. 1, Intramuros	7,853	2,308	963	1,340
Health district No. 2, Meisic	27,992	11,514	7,057	4,457
Health district No. 4, Sampaloc	19,471	8,497	3,995	4,502
Health district No. 5, Tondo	22,411	4,522	3,579	943
Health district No. 6, Paco	7,549	4,103	2,515	1,588
Total	85,276	30,939	18,109	12,830
Provinces:				
Abra	15,133	10,506	4,969	5,537
Agusan	1,695	461	120	341
Albay	13,985	11,870	8,728	3,142
Ambos Camarines	15,187	10,733	6,323	4,410
Bataan	5,092	4,349	2,974	1,375
Bulacan	62,890	44,343	31,958	12,385
Cagayan	47,280	4,773	1,089	3,684
Capiz	19,006	10,795	6,742	4,053
Cavite	13,186	12,341	9,014	3,327
Cebu	307,328	131,673	98,308	33,370
Ilocos Norte	28,216	25,213	11,623	13,590
Ilocos Sur	58,177	43,096	23,343	24,715
Iloilo	99,525	69,565	51,606	17,959
Isabela	15,760	12,878	9,868	2,510
Laguna	25,042	24,161	14,914	9,247
Masbate	10,565	4,988	4,568	415
Misamis	78,541	36,357	16,411	19,946
Mountain	6,027	6,895	5,084	1,811
Occidental Negros	20,009	8,962	5,761	3,201
Oriental Negros	19,715	11,464	5,787	5,677
Palawan	2,976	2,413	1,850	563
Pampanga	42,596	33,874	22,437	11,437
Pangasinan	43,134	33,673	20,491	13,182
Rizal	17,338	13,658	8,471	5,187
Tarlac	8,571	8,418	5,989	2,429
Union	51,815	46,211	29,761	16,450
Zambales	704	543	188	355
Total	1,024,433	628,471	408,338	220,133
Manila	85,276	30,939	18,109	12,830
Grand total	1,109,709	695,410	426,447	232,963

SYSTEMATIC VACCINATION.

[Closed July 3, 1912.]

PROVINCE OF LEYTE, FROM MAY 1, 1910, TO APRIL 30, 1912.

Number of vaccinations	294,764
Number of successful vaccinations	163,045
Successful vaccinations	118,810
Unsuccessful vaccinations	64,235
Average vaccinations per 1,000 population	757.90

REPORT OF SERA.

	Anti-pestic.	Plague prophylactic.	Assorted.
Bottles on hand at the beginning of the year	230	1,024	133
Received from the Bureau of Science			558
Total to be accounted for	230	1,024	691
Issued			558
Total bottles remaining at the end of the year	230	1,024	133

SMALLPOX AND VARIOLOID, CITY OF MANILA.

Nationalities.	Smallpox.				Varioloid.			
	Cases.		Deaths.		Cases.		Deaths.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Americans					1			
Filipinos					390	205		
Spaniards						2		
Other Europeans					1			
Chinese								
All others					1			
Total					393	207		

Districts and ages.	Smallpox.		Varioloid.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros			82	
No. 2, Meisic			197	
No. 4, Sampaloc			88	
No. 5, Tondo			215	
No. 6, Paco			18	
Total			600	
Ages:				
Under 1 year			21	
1 year to 10 years			208	
10 years to 20 years			202	
20 years to 30 years			127	
30 years to 40 years			34	
40 years to 50 years			2	
Over 50 years			8	
Unknown			8	
Total			600	

Number of cases found alive: Smallpox, 0; varioloid, 600.
Number of cases found dead: Smallpox, 0; varioloid, 0.

CHOLERA AND PLAGUE, CITY OF MANILA.

Nationalities.	Cholera.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Americans								
Filipinos		1		1	1	1	1	1
Spaniards								
Other Europeans								
Chinese								
All others								
Total		1		1	1	1	1	1

Districts and ages.	Cholera.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros				
No. 2, Meisic	1	1	1	1
No. 4, Sampaloc				
No. 5, Tondo			1	1
No. 6, Paco				
Total	1	1	2	2
Ages:				
Under 1 year				
1 year to 10 years				
10 years to 20 years			1	1
20 years to 30 years				
30 years to 40 years				
40 years to 50 years			1	1
Over 50 years	1	1		
Unknown				
Total	1	1	2	2

Number of cases found alive: Cholera, 0; plague, 1.
Number of cases found dead: Cholera, 1; plague, 1.

TUBERCULOSIS CASES REPORTED IN MANILA.

Nationalities.	Health districts.										Total.
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Americans	1										1
Filipinos	50	16	38	21	19	15	44	35	14	11	258
Spaniards											
Other Europeans											
Chinese			4								4
All others	1		1								2
Total	52	16	38	21	19	15	44	35	14	11	265

[a] Incomplete.

Also reported 39 provincial cases.

REPORT OF EXAMINATION OF SCHOOL CHILDREN.

Diseases found.	Boys.	Girls.	Disposition of cases.				Total.
			Excluded.	Sent to dispensary.	No treatment.	Refused treatment.	
Excluded from school:							
Pertussis							
Mumps	3		3	2	1		3
Tuberculosis	47	52	4	99			99
Measles							
Contagious eye cases except trachoma							
Pediculosis with live pediculi		3	3	3			3
Scabies	76	44	3	115	5		120
Contagious skin cases							
Favus	8	5	4	13			13
Other diseases							
Ordered for treatment:							
Pediculosis no live pediculi	12	32		44			44
Adenoids	52	9		50	11		61
Tonsils hypertrophied	542	296		93	745		838
Conjunctivitis, acute	101	48		138	11		149
Trachoma	223	82		305			305
Myopia	72	43		102	13		115
Blind one eye	10	3		3	10		13
Dermoid cyst, lid	7	1		7	1		8
Iritis	1	1		2			2
Dacryocystitis		1		1			1
Strabismus	12	4		1	15		16
Styes	1	1		2			2
Tumors (congentital)		1			1		1
Ulcers, cornea		1		1			1
Defective hearing	191	74		134	131		265
Deaf, one ear	15	4		19			19
Ezcema, ear	2			2			2
Otitis media		1		1			1
Chorea	1			1			1
Adenitis, tubercular	24	21		15	30		45
Tinea	378	104		185	292		477
Dental caries	1,190	796		162	1,824		1,986
Deformities	15	6		4	17		21
Bronchitis	265	214		358	121		479
Goitre	1			1			1
Fracture, arm	1			1			1
Malaria	2			2			2
Pleurisy	2	1		2	1		3
Pompholyx		1		1			1
Valvular lesions	9	3		10	2		12
Number of vaccinations required	384	142					526
Number of vaccinations made							
Total	3,642	1,994	17	1,879	3,231		5,686

Total number of children examined, 10,640.

CHOLERA IN THE PROVINCES.

Towns.	Cases.	Deaths.	Mortality.
			Per cent.
Laguna: Calamba	1		
La Union:			
Bacnotan	3	2	
Luna	19	17	
San Juan	3	3	
San Fernando	23	20	
Total	48	42	87.50
Grand total	49	42	85.71

SMALLPOX AND VARIOLOID IN THE PROVINCES, DURING THE SECOND, THIRD, AND FOURTH QUARTERS OF 1911, FIRST AND SECOND QUARTERS OF 1912.

[Closed September 8, 1912.]

Provinces.	1911						1912				Total.	
	Second quarter.		Third quarter.		Fourth quarter.		First quarter.		Second quarter.			
	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.
Abra												
Agusan												
Albay												
Ambos Camarines									X	X		
Antique									X	X		
Bataan												
Batanes									X	X		
Batangas		1						2				3
Bohol	23	1			8		26	3	19	1	76	5
Bulacan												
Cagayan								1	X	X		1
Capiz		4		2		2	X	X	X	X		8
Cavite												
Cebu		154		143	123	123		99	30	30	153	549
Ilocos Norte		6										6
Ilocos Sur												
Iloilo		13							X	X		13
Isabela									X	X		
Laguna												
Leyte	191	55	207	52	308	73	659	110	X	X	1,365	290
Misamis									X	X		
Nueva Ecija									X	X		
Nueva Vizcaya												
Oriental Negros						5		1	X	X		6
Occidental Negros	32	32		7		3		1			32	43
Pampanga												
Pangasinan												
Rizal										5		5
Romblon							X	X	X	X		
Samar									X	X		
Surigao												
Tarlac				32								32
Tayabas										1		1
Union												
Zambales							X	X				
Total	246	266	207	236	439	206	685	217	49	37	1,626	962

VARIOLOID.

	Cases reported.	Deaths.
Second quarter, 1911	70	0
Third quarter, 1911	28	0
Fourth quarter, 1911	0	0
First quarter, 1912	28	0
Second quarter, 1912	0	0
Total	126	0

NOTE.—There were 224 cases in June and 213 cases in July, 1912 of smallpox, in the province of Leyte.

MORTALITY AMONG GOVERNMENT EMPLOYEES.

[Closed August 5, 1912.]

	Americans.	Filipinos.
Average number of employees	2,852	7,053
Number of deaths:		
From illness	16	24
From violence	6	2
Total	22	26
Deaths from illness:		
Average years of service	7.96	4.21
Average age at death	39	33
Annual death rate per thousand	5.61	3.39
Deaths from violence:		
Average years of service	9.09	5.60
Average age at death	35	28
Annual death rate per thousand	2.10	0.28
All deaths:		
Average years of service	7.74	4.21
Average age at death	38	31
Annual death rate per thousand	7.71	3.68
Both nationalities:		
Population	9,915	
Number of deaths	48	
Average years of service	6.02	
Average age at death	35	
Annual death rate per thousand	4.84	

All deceased are males except one Filipina.

GENERAL RETURN OF BIRTHS AND DEATHS IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS, DURING THE CALENDAR YEAR 1911.

Provinces.	Average of population.	Births.	Annual birth rate per 1,000.	Deaths.										
				From 0 to 1 year.	From 1 to 2 years.	From 2 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	From 20 to 30 years.	From 30 to 40 years.	From 40 to 50 years.	From 50 to 60 years.	Over 60 years.	Unknown.
Abra	60,392	2,194	36.32	243	66	79	55	55	100	112	87	62	183	2
Agusan	18,567	537	28.92	72	27	26	16	20	24	16	18	10	22	1
Albay	247,057	11,348	45.93	1,977	890	1,215	524	460	496	352	369	359	956	-----
Ambos Camarines	246,453	10,156	41.20	1,560	612	807	295	342	381	345	316	319	692	27
Antique	133,008	4,609	34.65	612	292	409	122	104	131	134	125	119	298	-----
Bataan	47,230	2,326	49.24	612	175	166	62	90	145	108	73	71	152	-----
Batanes	8,068	329	39.78	76	16	11	8	4	9	12	13	10	35	-----
Batangas	301,311	14,959	49.56	2,957	770	845	228	296	575	430	384	361	736	548
Bohol	269,228	12,614	46.85	2,092	748	915	510	525	474	335	282	323	1,135	39
Bulacan	225,757	9,812	43.46	3,209	662	774	257	234	441	451	425	304	1,066	3
Cagayan	137,010	5,773	42.13	1,215	444	622	266	208	291	306	276	251	524	1
Capiz	220,855	8,564	38.78	1,362	522	742	385	243	318	297	284	287	702	32
Cavite	137,520	5,837	42.44	1,709	492	526	129	165	318	264	221	223	556	1
Cebu	728,562	32,275	44.29	4,559	1,942	2,357	1,275	894	1,024	764	767	754	1,728	10
Ilocos Norte	170,696	8,483	49.69	1,352	553	669	277	248	378	252	240	231	741	8
Ilocos Sur	203,487	8,704	42.77	1,546	357	383	149	215	339	335	231	189	598	7
Iloilo	406,854	16,992	41.76	3,233	1,547	2,270	839	652	626	609	545	497	1,034	27
Isabela	72,998	2,901	39.74	539	254	315	155	145	176	181	139	107	220	1
Laguna	148,430	7,699	51.86	1,997	442	424	185	245	446	339	339	301	574	11
Leyte	488,451	18,758	38.40	2,259	909	1,274	852	785	822	564	466	470	901	205
Misamis	132,601	5,526	41.67	1,125	311	382	222	230	296	161	170	138	318	3
Nueva Ecija	19,907	797	40.03	183	63	81	41	55	105	83	51	45	90	-----
Nueva Vizcaya	132,999	5,883	44.23	1,365	454	523	179	207	318	256	250	193	507	42
Occidental Negros	304,668	10,357	33.99	2,134	1,065	1,408	480	467	630	456	422	358	725	24
Oriental Negros	184,889	7,762	41.98	1,276	618	764	408	315	371	294	278	231	581	3
Pampanga	225,113	11,534	51.23	3,184	750	821	229	198	394	395	329	280	816	4
Pangasinan	441,816	22,410	50.72	3,865	1,513	2,018	660	659	974	831	665	612	1,867	14
Rizal	152,085	8,023	52.98	2,365	502	435	121	154	328	328	273	238	683	42
Romblon	55,559	2,200	39.59	239	118	147	83	70	109	76	82	93	153	2
Samar	233,818	7,444	31.83	869	226	255	161	297	280	208	211	214	412	115
Surigao	83,946	2,047	24.38	311	102	136	72	73	80	72	51	63	116	8
Tarlac	139,971	7,105	50.76	1,548	545	630	207	176	317	248	226	159	468	-----
Tayabas	201,936	8,605	42.61	1,752	413	495	249	321	504	440	353	335	687	4
Union	128,895	6,222	48.27	896	382	455	168	167	264	180	147	125	548	3
Zambales	62,045	2,479	39.95	464	226	302	78	78	133	133	103	78	184	20

General return of births and deaths, etc.—Continued.

Causes of death.	Abra.	Agusan	Albay.	Ambos Camarines.	Antique.	Bataan.	Batanes.
Typhoid fever (abdominal typhus)	21	30	3	14	6	35	.....
Malaria fever	408	57	750	671	335	139	6
Malarial cachexia	8	10	27	31	4	67	4
Smallpox	.....	.....	.....	.....	.....	.....	.....
Whooping cough	45	7	96	86	14	2	.....
Cholera, Asiatic	.....	.....	59	.....	.....	.....	.....
Dysentery	11	25	1,207	808	380	184	2
Beriberi	.....	13	57	88	.....	10	2
Tuberculosis of the lungs	109	7	506	529	332	179	9
Tuberculosis of other organs	4	3	109	46	13	12	1
Cancer and other malignant tumors	4	1	17	17	.....	5	.....
Congestion and hemorrhage of the brain	.....	2	16	7	1	7	.....
Convulsions of children	22	26	916	529	122	351	9
Acute bronchitis	7	5	410	124	.....	24	2
Diarrhea and enteritis (under 2 years)	14	4	143	33	100	17	11
Chronic diarrhea and enteritis	2	.....	26	26	79	10	2
Diarrhea and enteritis (2 years and over)	13	4	125	61	92	49	5
Diseases of the puerperal state	18	2	192	145	20	31	5
Violence:							
Suicide	2	1	4	6	.....	3	.....
Not suicide	9	.....	53	21	13	7	1
Other diseases	347	55	2,882	2,454	780	512	120
Total	1,044	252	7,598	5,696	2,341	1,654	189
Males	552	143	3,962	2,941	1,176	879	85
Females	492	109	3,636	2,755	1,165	775	104
Annual death rate per 1,000	17.28	13.57	30.75	23.11	17.60	35.02	23.42
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	198	30	725	560	213	175	24
Widowers	48	10	319	289	123	65	6
Single	46	17	381	278	77	66	.....
Boys	249	86	2,535	1,804	768	564	54
Condition not stated	11	.....	2	15	.....	9	.....
Females:							
Married	161	23	667	549	219	172	19
Widows	98	14	491	479	170	105	25
Single	32	10	329	243	95	45	7
Girls	202	57	2,149	1,480	681	452	53
Condition not stated	4	5	.....	4	.....	1	.....

Causes of death.	Batangas.	Bohol.	Bulacan.	Cagayan.	Capiz.	Cavite.	Cebu.
Typhoid fever (abdominal typhus)	68	31	102	3	28	43	356
Malarial fever	1,262	867	424	392	582	649	1,395
Malarial cachexia	395	118	22	906	123	236	83
Smallpox	1	3	1	.....	19	.....	776
Whooping cough	40	266	23	8	219	31	456
Cholera asiatic	.....	.....	15	.....	.....	1	.....
Dysentery	568	276	368	321	710	209	2,196
Beriberi	117	63	278	72	59	109	700
Tuberculosis of the lungs	749	464	1,091	272	486	298	382
Tuberculosis of other organs	59	98	142	121	81	59	453
Cancer and other malignant tumors	18	71	19	1	15	25	155
Congestion and hemorrhage of the brain	21	12	59	4	9	33	19
Convulsions of children	1,396	351	2,602	483	246	1,097	318
Acute bronchitis	233	175	175	10	165	106	67
Diarrhea and enteritis (under 2 years)	58	19	50	15	49	122	191
Chronic diarrhea and enteritis	81	3	75	10	27	120	102
Diarrhea and enteritis (2 years and over)	74	12	75	35	122	147	246
Diseases of the puerperal state	142	102	91	58	82	65	226
Violence:							
Suicide	12	13	5	12	12	9	40
Not suicide	690	87	55	23	80	15	122
Other diseases	2,216	4,392	2,149	1,153	2,060	1,189	7,345
Total	8,180	7,378	7,826	4,404	5,174	4,604	16,674
Males	4,389	3,775	4,081	2,398	2,564	2,473	8,571
Females	3,741	3,603	3,745	2,011	2,610	2,131	7,803
Annual death rate per 1,000	26.98	27.74	34.66	32.14	22.42	33.47	22.6

General return of births and deaths, etc.—Continued.

Causes of death.	Batangas.	Bohol.	Bulacan.	Cagayan.	Capiz.	Cavite.	Cebu.
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	779	684	783	590	505	476	2,796
Widowers	279	268	356	249	254	209	861
Single	224	396	292	146	196	155	686
Boys	2,669	2,419	2,608	1,408	1,614	1,633	4,223
Condition not stated	428	18	42	.....	5	.....	4
Females:							
Married	745	683	720	418	426	452	1,309
Widows	498	489	580	329	484	342	827
Single	213	475	188	102	264	99	687
Girls	2,170	1,982	2,273	1,162	1,435	1,287	4,680
Condition not stated	120	24	34	.....	1	2	.....

Causes of death.	Ilocos Norte.	Ilocos Sur.	Iloilo	Isabela.	Laguna.	Leyte.	Misamis.
Typhoid fever (abdominal typhus)	.....	.....	60	4	131	14	155
Malarial fever	1,342	886	1,413	493	797	875	532
Malarial cachexia	.....	.....	909	84	134	182	50
Smallpox	6	.....	30	1	.....	214	.....
Whooping cough	60	41	351	19	56	88	57
Cholera, Asiatic	.....	3	.....	.....	.....	.....	.....
Dysentery	569	240	1,894	175	255	1,198	440
Beriberi	11	64	50	47	56	251	118
Tuberculosis of the lungs	504	401	1,484	223	681	576	235
Tuberculosis of other organs	.....	1	132	14	65	48	71
Cancer and other malignant tumors	2	.....	31	2	19	27	19
Congestion and hemorrhage of the brain	.....	5	38	1	32	6	6
Convulsions of children	298	212	2,019	121	1,088	740	157
Acute bronchitis	21	63	236	58	100	152	.....
Diarrhea and enteritis (under 2 years)	129	81	198	6	72	144	38
Chronic diarrhea and enteritis	74	43	125	4	77	106	12
Diarrhea and enteritis (2 years and over)	106	75	357	26	70	268	9
Diseases of the puerperal state	75	139	107	21	90	167	64
Violence:							
Suicide	.....	13	11	2	13	20	10
Not suicide	6	12	41	21	37	66	15
Other diseases	1,746	2,070	2,398	910	1,535	4,415	1,368
Total	4,949	4,849	11,879	2,232	5,303	9,507	3,356
Males	2,543	2,316	6,304	1,267	2,791	5,115	1,809
Females	2,406	2,033	5,575	965	2,512	4,392	1,547
Annual death rate per 1,000	28.99	21.37	29.19	30.57	35.72	19.46	25.30
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	509	581	904	333	625	971	356
Widowers	261	204	539	111	227	399	116
Single	194	161	398	93	179	513	151
Boys	1,578	1,368	4,439	729	1,678	3,089	1,163
Condition not stated	1	2	29	1	82	143	28
Females:							
Married	446	470	801	234	652	874	307
Widows	334	318	765	141	389	522	196
Single	191	205	343	41	158	378	121
Girls	1,385	1,040	3,656	534	1,275	2,502	917
Condition not stated	.....	.....	10	15	38	116	16

Causes of death.	Nueva Ecija.	Nueva Vizcaya.	Occidental Negros.	Oriental Negros.	Pampanga.	Pangasinan.	Rizal.
Typhoid fever (abdominal typhus)	12	12	20	1	215	169	96
Malarial fever	229	622	946	995	737	2,258	256
Malarial cachexia	9	118	195	47	373	276	138
Smallpox	.....	.....	12	157	.....	.....	.....
Whooping cough	8	55	118	233	33	86	26
Cholera, asiatic	.....	.....	.....	.....	.....	.....	.....
Dysentesy	23	417	1,502	559	304	951	218
Beriberi	8	.....	70	131	145	56	329
Tuberculosis of the lungs	96	428	850	217	957	1,518	413
Tuberculosis of other organs	12	23	80	231	35	147	156
Cancer and other malignant tumors	1	.....	15	28	20	31	29
Congestion and hemorrhage of the brain	1	3	14	4	37	42	60

General return of births and deaths, etc.—Continued.

Causes of death.	Nueva Ecija.	Nueva Vizcaya.	Occidental Negros.	Oriental Negros.	Pampanga.	Pangasinan.	Rizal.
Convulsions of children	99	905	1,254	197	1,885	2,079	1,437
Acute bronchitis	12	64	7	57	136	260	182
Diarrhea and enteritis (under 2 years)	4	158	77	72	73	55	98
Chronic diarrhea and enteritis	3	94	44	16	50	49	95
Diarrhea and enteritis (2 years and over)	5	105	230	100	41	149	115
Diseases of the puerperal state	25	64	67	47	99	230	63
Violence:							
Suicide	1	-------	8	22	4	14	5
Not suicide	2	5	55	23	40	141	42
Other diseases	240	1,221	2,655	1,997	2,216	5,167	1,721
Total	797	4,294	8,169	5,134	7,400	13,678	5,469
Males	450	2,320	4,362	2,750	3,927	7,115	2,943
Females	347	1,974	3,807	2,384	3,473	6,563	2,526
Annual death rate per 1,000	40.08	32.28	26.81	27.76	32.87	30.96	35.96
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	156	492	688	483	697	1,497	558
Widowers	41	217	391	214	299	713	249
Single	35	163	418	262	233	337	172
Boys	205	1,420	2,835	1,723	2,695	4,551	1,953
Condition not stated	13	28	30	68	3	17	11
Females:							
Married	113	444	690	425	586	1,551	514
Widows	60	284	520	350	431	978	388
Single	15	103	235	227	138	304	89
Girls	156	1,121	2,334	1,373	2,318	3,720	1,532
Condition not stated	3	22	38	9	-------	10	3

Causes of death.	Romblon.	Samar.	Surigao.	Tarlac.	Tayabas.	Union.	Zambales.
Typhoid fever (abdominal typhus)	8	25	2	46	92	86	33
Malarial fever	131	381	167	621	467	437	210
Malarial cachexia	33	94	7	384	263	196	44
Smallpox	-------	-------	-------	32	-------	-------	-------
Whooping cough	7	63	-------	44	88	22	12
Cholera, Asiatic	-------	-------	-------	-------	3	42	-------
Dysentery	45	223	158	240	304	365	212
Beriberi	33	109	7	40	139	12	14
Tuberculosis of the lungs	89	105	30	509	770	193	243
Tuberculosis of other organs	13	53	7	32	95	38	117
Cancer and other malignant tumors	1	22	2	1	15	9	5
Congestion and hemorrhage of the brain	26	4	-------	19	53	9	-------
Convulsions of children	38	255	33	798	464	497	134
Acute bronchitis	31	85	54	51	174	65	-------
Diarrhea and enteritis (under 2 years)	6	33	11	24	45	6	5
Chronic diarrhea and enteritis	9	10	14	4	47	12	9
Diarrhea and enteritis (2 years and over)	5	25	12	27	63	49	72
Disease of the puerperal state	24	83	20	67	127	56	32
Violence:							
Suicide	-------	5	1	9	7	13	2
Not suicide	7	33	7	30	24	31	5
Other diseases	666	1,640	552	1,551	2,308	1,197	659
Total	1,172	3,248	1,084	4,524	5,553	3,335	1,808
Males	618	1,692	622	2,437	2,991	1,695	940
Females	544	1,556	462	2,087	2,562	1,640	868
Annual death rate per 1,000	21.09	13.89	12.91	32.32	27.49	25.87	29.14
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	161	398	124	437	825	349	178
Widowers	93	197	53	202	231	149	77
Single	66	174	49	121	249	124	64
Boys	296	847	396	1,677	1,666	1,070	586
Condition not stated	2	81	-------	-------	20	3	25
Females:							
Married	113	399	107	436	746	392	209
Widow	117	240	72	284	383	274	115
Single	48	142	33	81	139	127	40
Girls	274	683	250	1,165	1,292	832	577
Condition not stated	2	92	-------	1	2	15	27

WELLS COMPLETED DURING THE FISCAL YEAR BY THE BUREAU OF PUBLIC WORKS.

Provinces and towns.	Number.	Depth in feet.	Flows gallons per minute.	Pumps gallons per minute.	Successful.	Unsuccessful.	Why abandoned.
Batangas:							
Nasugbu	3	660	5	6	1		
	4	155		40	1		
Balayan	4	781		25	1		
Lipa	1	164		80	1		
	2	191		80	1		
Cebu:							
Mabolo Estate	1	614		100	1		
	2	835		35	1		
Argao	1	468	5		1		
Cagayan:							
Tuguegarao	1	737		35	1		
Aparri	2	698				1	Gravel.
Ambos Camarines:							
Indan	2	70		20	1		
	3	48		20	1		
	4	48		20	1		
	5	48		20	1		
	6	48		20	1		
	7	78		20	1		
Basud		100		13	1		
Sagnay	1	48		15	1		
	2	48		18	1		
	3	48		12	1		
	4	48		20	1		
Daet	6	48		10	1		
	7	44		20	1		
	8	38		6	1		
Labo	2	72		15	1		
Indan	1	125				1	Hard sandstone.
Labo	1					1	No water.
	3					1	Rock.
Occidental Negros: San Carlos (Tabacalera)	1	68		15	1		
	2	80		15	1		
	3	186		15	1		
Oriental Negros: Lasi		188				1	Pulled pipe.
Albay: East Batan Coal Mining Co.		236				1	Do.
Cavite: Santa Cruz de Malabon	3	300		30	1		
Tayabas:							
Pagbilao		880		20	1		
Atimonan	1	850		10	1		
Iloilo: Janiuay		1,760				1	Salt water.
Bulacan:							
Baliuag	3	536	15	30	1		
	4	407	40		1		
	5	590	12		1		
Santa Maria		555	100		1		
Nueva Ecija:							
Cabanatuan	5	620	75		1		
Nampicuan		835		15	1		
Talavera	2	70		17	1		
	3	66		20	1		
	4	40		30	1		
	5	70		30	1		
	6	97		20	1		
Aliaga	1	157		30	1		
	2	176		30	1		
Nueva Vizcaya: Bayombong	1	120		25	1		
	2	29		18	1		
	3	30		14	1		
	4	27		16	1		
	5	137				1	Rig turned over to provincial treasurer.
Leyte:							
Malitbog	2	54		12	1		
	3	62		12	1		
	4	51		12	1		
	1	109				1	No water.
Liloan		58				1	No crew.
Rizal:							
Alabang	5	1,014		30	1		
Antipolo	1	307		25	1		
	2	257		50	1		
	3	340		25	1		
Taytay	2	320		50	1		
	3	795		50	1		
Las Piñas	1	465	7		1		
	2	415	30		1		

Wells completed during the fiscal year by the Bureau of Public Works—Continued.

Provinces and towns.	Number.	Depth in feet.	Flows gallons per minute.	Pumps gallons per minute.	Successful.	Unsuccessful.	Why abandoned.
Rizal—Continued.							
Taguig	1	468		30	1		
	2	395		35	1		
Parañaque	2	485	12		1		
	3	300		30	1		
Tanay	1	68		12	1		
	2	160		20	1		
	3	112		12	1		
Montalban	7	40		14	1		
Tanay	4	410				1	Hard rock.
Morong	1	153				1	Sandstone.
Pililla	1	98				1	Hard rock.
Laguna:							
San Pedro Tunasan		355	16	180	1		
Biñan	1	305	11	150	1		
	2	280	29	150	1		
Santa Rosa		210	50		1		
Cabuyao	1	127	100		1		
	2	132	120		1		
Calamba		361		100	1		
Alaminos		945		50	1		
Pangasinan:							
Malasiqui	2	310		250	1		
San Fabian		115	160		1		
Mangaldan		150	75		1		
Binmaley		392	35	70	1		
Malasiqui	1	900				1	Salt water.
Alaminos	1	1,200				1	Do.
	2	500				1	Do.
Samar:							
Catbalogan	1	794		30	1		
Wright	3	740				1	Do.
Ilocos Sur:							
Vigan	4	4,016				1	Slate.
Santo Domingo		795				1	Do.
Tarlac:							
San Miguel (Tabacalera)	1	109		20	1		
	2	79				1	Gravel.
	3	82				1	Do.
Camiling	1	198				1	Rock.
Total	102	32,403	897	1,569	80	22	

WELLS COMPLETED DURING THE FISCAL YEAR 1918 BY PROVINCIAL JET RIGS.

Province and town.	Number.	Depth in feet.	Flows gallons per minute.	Pumps gallons per minute.	Successful.
Bulacan:					
Obando (barrio Pacó)		151	12		1
San Miguel (barrio Camias)		360	3		1
Calumpit (barrio Calizon)		317	5		1
Bocaue (barrio Lolomboy)		178	2		1
Hagonoy—					
Barrio San José		257	40		1
Barrio Santa Mónica		354	15		1
San Miguel (Santa Rita)		266		13	1
Calumpit (barrio Calumpang)		267	21		1
Obando (barrio Quibadia)		239		25	1
San Miguel de Mayumo		105	7		1
Malolos (barrio Santo Rosario)		196	17		1
Paombong (barrio Masucol)		295	15		1
Obando (barrio Quibadia)		255		5	1
Hagonoy (barrio San Isidro)		344	50		1
Bataan:					
Balanga—					
Cupang		107	20		1
Cataning		105	20		1
Missouri Street		108	9		1
Abucay—					
Calaylayan		110	2		1
Gabon		120	4		1

Well completed during the fiscal year 1912 by the Provincial jet rigs—Continued.

Province and town.	Number.	Depth in feet.	Flows gallons per minute.	Pumps gallons per minute.	Successful.
Bataan—Continued.					
Samal—					
Calaguiman		60	9		1
Ibaba		60	5		1
San Juan		60	14		1
Orani—					
Pantalan		222	45		1
Parang		200	20		1
Orani (Santa Cruz)		220	18		1
Parang		220	45		1
Hermosa		200	50		1
Dinalupihan—					
San José		100	42		1
Luacan		152	32		1
Burgos		150	7		1
Pampanga:					
San Fernando—					
San Vicente		220	35		1
San Pedro		260	5		1
Lubao—					
Bangkal		200	5		1
Sinubli		180	5		1
Intermediate School		190	5		1
Santa Bárbara		180	5		1
San Nicolas		160	5		1
San Antonio		80	5		1
Concepcion		180	5		1
San Vicente		180	5		1
Tarlac:					
Gerona		275		15	1
Tarlac		75		16	1
Concepción		292		15	1
San Manuel		300		17	1
Victoria—					
San Nicolas		149	32		1
Palacpalac		126	108		1
Moncada—					
Arifigin		180	10		1
Pedro		310	10		1
Balayan		166	11		1
San Julian		200	25		1
Victoria (Maluid)		356	2		1
Moncada (Capauayan)		250	5		1
Victoria (Balbaloto)		216	80		1
Moncada (Calamay)		110	20		1
Victoria—					
San Andres		238	11		1
Santa Lucia		187	8		1
Moncada (Rizal)		310	10		1
Pura—					
Población		229	15		1
Matindig		226	13		1
Buenavista		226	20		1
Paniqui—					
South		215	10		1
West		178	10		1
Total	62	8,362	1,004	106	62

STATEMENT OF EXPENDITURES.

The following statement shows the expenditures made during the fiscal year 1912 chargeable against the appropriation for the Bureau of Health during that period:

Amount allotted for the year	₱1,417,000.00
Amount carried from last year's appropriation	176,352.22
Amount restored during the year	4,349.01
Total	1,597,701.23

Expenditures chargeable are as follows:

GENERAL.	
Salaries and wages:	
General office	₱7,560.00
Clerical division	30,295.55
Statistical division	12,500.63
Engineering division	22,507.97
Property division	9,023.00
Central Free Dispensary	3,336.00
Station A	20,347.17
Station C	14,763.96
Station I	8,610.47
Station J	10,515.99
Station L	7,425.56
Disinfection division	12,428.22
San Juan Tuberculosis Hospital	1,763.33
Board of examiners	395.00
Cebu Hospital	544.00
Iloilo Hospital	3,000.00
Commutation of leave	19,159.61
Incidental	1,022.95
Stationery and office supplies:	
General	2,857.99
Sanitary stations	374.87
Transportation:	
Engineering division	1,636.35
Disinfection division	2,076.30
Station A	900.90
Station C	1,102.40
Station I	808.00
Station J	403.20
Station L	800.80
Incidentals	6,050.19
Postage and telegrams	2,821.60
Cablegrams	150.74
Printing and binding	19,544.04
Library, periodicals	125.13
Street-car tickets	3,380.00
Hospicio de San José	44,138.25
Colegio de Santa Isabel	2,682.61
Asilo de San Vicente de Paul	3,600.00
Rents:	
Sanitary stations	240.00
Post-office box	32.00
Transportation of employees to and from the United States	6,217.50
Traveling expenses and per diems of employees	5,087.78
Disinfectants	12,586.17
Central Free Dispensary:	
Medicines	3,953.13
Incidentals	194.11
Medicines and medical supplies for indigent persons	9,608.16
Flannel for covering infants	100.10
San Juan Tuberculosis Hospital:	
Medicines	1,284.64
Disinfectants	4.47
Tuberculosis Free Dispensary—Medicines	979.61
Freight	2,318.79
Iloilo Hospital—Fees	290.50
Cebu Hospital—Miscellaneous	1,849.57
Rents, telephone:	
General	296.00
Sanitary stations	506.52
Repairs to furniture and office	4,614.63
Miscellaneous equipment	28,436.87
Equipment, Cebu Hospital	11,174.36
Miscellaneous supplies, stock	(95,127.13)

GENERAL—continued.	
Sibul Springs:	
Salaries and wages	₱1,935.00
Medicines and miscellaneous	290.96
Traveling expenses	74.98
Equipment and Improvement	233.51
Total	276,316.49
INSPECTION DIVISION.	
Salaries and wages:	
Medical inspectors	63,685.24
District health officers	(11,620.80)
Sanitary inspectors	6,026.65
Employees	3,456.06
Chauffeurs	1,713.06
Transportation	7,986.20
Photographs	281.40
Serum antiplague	763.22
Sera, miscellaneous	3.94
Incidentals	19.27
Traveling expenses:	
Medical inspectors	967.76
District health officers	7,745.37
Sanitary inspectors	1,627.56
Repairs auto	1,314.60
Equipment	1,974.34
Total	84,858.13
VACCINATION DIVISION.	
Salaries and wages	19,939.99
Traveling expenses	4,662.85
Antiseptic supplies and dressings	577.12
Vaccine virus	13,420.00
Ice for virus	409.48
Total	49,999.24
SAN LAZARO HOSPITAL.	
Salaries and wages	37,457.96
Subsistence supplies	49,859.45
Light	5,592.90
Rent of telephones	218.40
Forage and horseshoeing	10.50
Transportation	29.30
Clothing, lepers	169.20
Bedding, insane	140.00
Cigars and cigarettes	120.00
Soap	361.95
Laundry allowances	881.17
Gratuity to lepers	1,572.56
Office supplies	109.07
Incidentals	3,236.89
Medicines, medical, and surgical supplies	7,963.07
Repairs	3,725.06
Equipment	2,627.69
Total	118,573.19
PHILIPPINE GENERAL HOSPITAL.	
Salaries and wages:	
Employees	120,598.67
Pupil nurses	32,429.20
Temporary employees	2,800.00
Philippine Medical School	17,100.00

Statement of expenditures—Continued.

PHILIPPINE GENERAL HOSPITAL—continued.	
Subsistence supplies	₱111,910.76
Commutation of subsistence and quarters	2,876.17
Light	7,218.02
Rents of telephones	1,414.92
Coal, oil, gas, and steam	8,649.21
Transportation	965.20
Office supplies	2,353.96
Laundry, hospital	85,268.09
Laundry allowances	3,612.97
Maintenance of grounds	800.33
Incidentals	4,079.14
Medicines, medical, and surgical supplies	59,587.35
Miscellaneous supplies	5,378.41
Pupil nurses:	
Laundry	1,111.74
Subsistence	16,067.39
Incidentals	1,774.49
Repairs	10,451.61
Improvement of grounds	7,029.15
Equipment	57,059.40
Total	510,027.70

BAGUIO HOSPITAL.	
Salaries and wages	11,956.71
Subsistence supplies	12,103.40
Commutation of subsistence and quarters	632.64
Office supplies	154.22
Fuel	952.62
Light	565.50
Stamps	99.87
Freight	1,371.69
Medicines, medical, and surgical supplies	4,480.07
Incidentals	4,687.86
Laundry, hospital	1,233.89
Laundry allowances	508.40
Repairs	2,666.44
Equipment	5,726.80
Miscellaneous supplies	(9,113.22)
Total	38,055.89

CULION LEPER COLONY.	
Salaries and wages	26,589.58
Subsistence:	
Lepers	122,839.34
Employees	20,056.51
Stationery	170.21
Fuel and light	104.48
Gratuity to lepers	28,069.00

CULION LEPER COLONY—continued.	
Clothing	₱4.50
Bedding	195.83
Miscellaneous supplies	474.60
Incidentals	1,852.90
Disinfectants	355.33
Freight	12,757.81
Collection of lepers	15,228.67
Medicines, medical, and surgical supplies	18,317.26
Stamps	57.40
Repairs	3,948.89
Real estate	1,000.00
Equipment	5,263.29
Construction	2,074.93
Stock	53,327.19
Total	301,288.21

PRISON SANITATION DIVISION.	
Salaries and wages	7,967.83
Commutation of subsistence and quarters	480.16
Medicines, medical, and surgical supplies	8,798.14
Disinfectants	204.10
Laundry allowances	132.62
Total	17,582.85
Accounts payable	56,252.17
Non-Christian tribes:	
Salaries and wages	2,813.00
Miscellaneous expenses	2,651.73
Equipment	2,648.29
Total	8,113.02
Suppression and extermination of epidemic diseases and pests	8,577.14
Bad accounts	66.75
Set aside for permanent improvements:	
Nurses and doctors' quarters, Baguio Hospital	1,269.63
Wards, San Lazaro Hospital	4,349.01
Construction, Culion leper colony	50,000.00
Completion and equipment of the Philippine General Hospital	100,000.00
Total	155,618.64
Grand total	1,614,329.02

In addition to the foregoing statement of actual expenditures, there are the following outstanding obligations chargeable to the appropriation of the Bureau of Health and funds appropriated for same during the fiscal year 1912:

General:	
Salaries and wages	₱21.66
Transportation	1,894.25
Stationery and office supplies	44.50
Repairs to office and furnitures	224.94
Telephone rent	487.88
Incidentals	1,053.72
Postage	2.22
Cablegrams	154.47
Printing and binding	2,890.13
Traveling expenses and per diems of employees	243.96
Freight	329.88
Treatment of Government employees at Iloilo	753.25
Cebu Hospital	693.28
Salaries of secretary-treasurer and examination fees of boards of pharmacy and dental examiners	450.00

General—Continued.	
Sibul Springs, equipment dispensary	₱16.22
Miscellaneous supplies and articles of stock	100,667.25
Total	108,927.01
Inspection division:	
Salaries of medical inspector	300.00
Traveling expenses—	
Medical inspectors	49.40
District health officers	191.97
Sanitary inspectors	107.40
Transportation in the city	1,489.60
Repairs to autos	56.78
Sera	175.60
Photographs	17.40
Total	2,388.15

Vaccination division:	
Salaries of vaccinators	₱1,108.01
Traveling expenses of vaccinators	336.65
Vaccine virus	2,255.00
Ice for virus	24.26
Total	3,723.92
San Lazaro Hospital:	
Subsistence supplies	3,990.79
Transportation	7.90
Telephones	110.00
Repairs	2,311.02
Horseshoeing	2.10
Incidentals	76.00
Total	5,897.21
Philippine General Hospital:	
Salaries of employees	901.50
Subsistence supplies	7,509.32
Laundry allowances	7.27
Telephones	745.24
Lights	4,142.37
Transportation	163.95
Gas and steam	4,906.94
Repairs	6,198.23
Improvement of grounds	4,061.19
Maintenance of grounds	625.23
Incidentals	1,162.95
Pupil nurses—	
Salaries of	40.80
Laundry allowance	9.40
Subsistence	579.36
Incidentals	106.80
Total	31,120.74
Culion leper colony:	
Salaries of employees	₱850.80
Subsistence supplies	16,021.06
Collection of lepers	3,493.33
Freight	220.76
Stationery	14.30
Incidentals	11.29
Miscellaneous supplies and articles of stock	22,158.33
Construction	96.67
Total	47,956.56
Baguio Hospital:	
Subsistence supplies	2,308.43
Freight	277.43
Stationery	.62
Telephones, rent	42.00
Incidentals	2,094.86
Miscellaneous supplies and articles of stock	2,071.33
Total	6,840.69
Prison sanitation division: Salaries and wages	100.00
Non-Christian tribes:	
Salaries and wages	515.00
Miscellaneous expenses	2,357.14
Total	2,872.74
Grand total	209,752.12

The following is the income of the Bureau of Health during the year:

General (including refund salaries of district health officers, sales of supplies and equipment, miscellaneous services, etc.)	₱84,789.13	
General Hospital	209,752.96	
San Lazaro Hospital	3,122.10	
Baguio Hospital	10,075.40	
Culion Leper Colony	1,321.77	
Boards of Examiners	3,902.00	
Total	306,964.36	
Of the above amount, refund to appropriation is	78,773.28	
Balance, receipts from operation		228,090.28
Total funds made available during the fiscal year 1912		1,597,761.23
Total expenditures	1,614,329.02	
Outstanding liabilities	209,752.12	
Total	1,824,081.14	
Receipts from operation, fiscal year 1912	228,090.28	
Total chargeable against general fund		1,595,990.76
Total available		1,710.47

The following statement shows the expenditures made from appropriation made by Act 2069 for the Bureau of Health for the Mountain and Moro Provinces Nueva Vizcaya, and Agusan:

Appropriated		₱30,000.00
Carried from last year's appropriation		13,363.19
Total		43,363.19
Expenditures:		
Salaries and wages	₱16,774.77	
Miscellaneous expenses	16,972.09	
Equipment	9,157.40	
Permanent improvement	1,677.24	
Total	44,571.50	
Receipts from operation	1,208.31	
Total chargeable against appropriation		43,363.19
Balance		None.

It must be remarked that expenditures and liabilities to the amount of ₱10,985.76 incurred in behalf of the work at non-Christian provinces during the fiscal year 1912 have been borne by the Bureau of Health proper.

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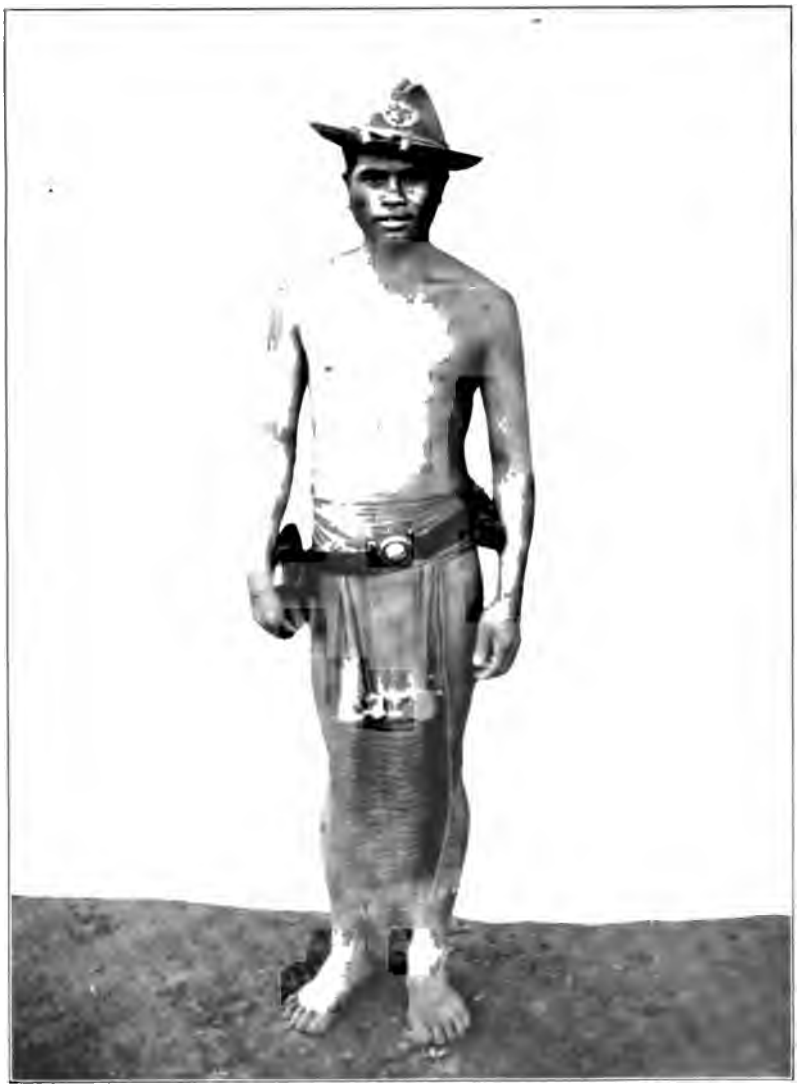

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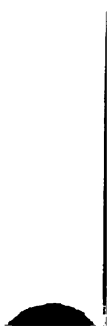

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